An Oration

ON

THE CLASSIFICATION AND NOMENCLATURE OF DISEASES, WITH REMARKS ON DISEASES DUE TO TREATMENT.

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BY H. D. ROLLESTON, M.D. CANTAB., F.R.C.P. LOND.,

SENIOR PHYSICIAN TO ST. GEORGE'S HOSPITAL; PHYSICIAN, VICTORIA HOSPITAL FOR CHILDREN.

MR. PRESIDENT AND GENTLEMEN,—In attempting to discharge the honourable trust laid upon me I shall venture on some considerations on the classification and nomenclature of diseases, and on the diseases directly due to treatment. Definitions are a weariness unto the flesh and the framing of them an intellectual exercise which necessarily often results in a compromise. When a disease (absence of ease) is mentioned we mentally distinguish it from a symptom and from a group of symptoms by the reservation that a disease is a departure from health due to a definite cause, whereas the designations symptom and symptom-complex, or a recognised grouping of symptoms, admit that the underlying cause is not constant. As our knowledge of the causation of disease becomes more complete what was at first regarded as a disease becomes a symptom, and logically a number of recognised diseases are only entitled to be called symptom-groups. Of the two essentials that go to make up our conception of a disease, (i.) the clinical aspect and (ii.) the etiological factor, the first is still the more prominent in our minds. For example, infection with the *B. typhosus* may occur without producing the symptoms of typhoid fever; such a condition as typhoidal osteitis without evidence of previous illness obviously cannot be called typhoid fever. It, however, seems doubtful whether at the present day the word "disease" can be rigidly confined to a recognised group of symptoms due to precisely the same cause, for if this criterion be maintained peritonitis, inasmuch as it may be due to various microbes, is not a specific disease. For ordinary purposes it is at present convenient to retain as diseases what are really group-diseases; a group-disease is a characteristic collection of symptoms which may be due to any one of a group of allied organisms. Thus the following allied bacteria, *Bacillus fæcalis alcaligenes*, *B. typhosus*, *B. para-typhosus A*, *B. para-typhosus B*, *B. coli*, *B. paracoli*, have been considered to be capable of producing in man disease indistinguishable from typhoid fever (Stratham).[1] In the last edition of the official "Nomenclature of Diseases" the first title of this disease was given as enteric fever, and thus includes the forms due to *Bacillus typhosus* (typhoid fever) as well as those due to paratyphoid infection. It is true that paratyphoid fever is now becoming recognised, but the diagnosis can only be made on bacteriological evidence.

Similarly with regard to another common disease the use of the word influenza, of Italian origin, for a familiar train of symptoms, has often been criticised as the refuge of those destitute of, or not sufficiently patient or ingenious to arrive at, a different diagnosis. There is, no doubt, much truth in this, but there are practical difficulties in taking up the standpoint that only those cases shown to be infected with Pfeiffer's *Bacillus influenzæ* are entitled to this designation. For it has been proved that among cases clinically alike some show this organism, whilst others do not. In 1905 Bulloch[2] stated that the *B. influenzæ*, common in the early nineties," had become rare and that recent epidemics were caused by various organisms, especially the *Micrococcus catarrhalis*, and that what is clinically called influenza is not one disease but a series of diseases. Lord[3] compared the bacteriology of an epidemic of influenza (1907–08) with a series of sporadic cases in an inter-epidemic period (1902–04) at Boston and found that *B. influenzæ* was present in a higher percentage (25 per cent.) of the sporadic cases than of the epidemic (15 per cent.). He suggested that the cases with *B. influenzæ* should be called "influenza vera," and those clinically alike but bacteriologically different "influenza nostras." This again is logical, but it cannot yet be put into universal practice. No doubt in time the conditions formerly recognised as compact diseases, such as peritonitis, enteric fever, and influenza, will be established in more elaborate nosology as *genera* and will be divided up into their several species. The time, however, for this has hardly arrived, and in practice we must still be content to retain the familiar terms.

The recent multiplication and differentiation of new diseases make it difficult to keep up with modern nomenclature and contrast in a striking manner with the leisurely progress of medicine in the early part of the last century. In 1822 the learned nosologist, Mason Good, secretary of this society and Orator in 1808, says in the preface to his four-volumed work, "On the Study of Medicine": "Whilst a few species of diseases are no longer to be found which are described by earlier writers, a few seem to have supplied their place, which are comparatively of modern origin."

ON THE CLASSIFICATION OF DISEASES.

The classification of diseases more nearly concerns readers or writers of textbooks than those solely engaged in the active practice of their profession; but it is important in connexion with the Registrar-General's returns and of some interest to us, for by the success or failure of our classifications it is possible to arrive at some conclusion as to the extent of our knowledge of medicine and so to estimate how far we are from finality in this subject as compared with sciences such as botany and zoology. There is also another, though perhaps somewhat remote, advantage that might result from the attempt to classify diseases on scientific lines resembling those in the more exact sciences. For just as astronomers and chemists have been able to indicate that a star or an element with certain properties should appear or exist, though at the time unknown, so by employing systematic methods we might anticipate, or, at least, be on the look out for, new forms of disease. Thus, by applying to the consideration of other ductless glands our knowledge that absence of thyroid secretion (myxœdema) and excessive (and? altered) secretion of the thyroid gland (exophthalmic goitre) give rise to diseases, we should be on the watch for a disease due to excessive activity of the islands of Langerhans in the pancreas, which would have the same relation to pancreatic diabetes that exophthalmic goitre has to myxœdema.

The first attempt to classify diseases appears to have been made in 1680 by Felix Plater, who took symptoms as the basis for his classification. About this time Sydenham seems to have suggested that diseases should, like plants, be arranged according to their external features. But it was not until Linnæus showed the way that the hint of the English Hippocrates was taken, and then an enormous amount of labour was expended on elaborate attempts to classify diseases on the lines of the natural sciences. These nosologies—now almost entirely forgotten and buried in the dust of libraries—tabulated diseases by Greek or less often Latin names, the majority of which are quite unfamiliar to modern ears. It is almost pathetic to consider the amount of apparently fruitless work done by the once famous nosologists Sauvages (1768), Vogel (1772), MacBride (1772), Crichton (1804), and Parr (1810). The importance attached to nosological classification a hundred years ago is shown, not only by the number of rival systems, each bristling with criticisms of those already extant, but by the publication of distinct nosologies by such distinguished men of science as Linnæus, Erasmus Darwin, and Thomas Young (1813), the last of whom was described on the inscription on his monument in Westminster Abbey as "alike eminent in almost every department of human learning."

The best known nosological classification was that brought out in 1785 by William Cullen, professor of medicine at Edinburgh. This work, entitled "Synopsis Nosologiæ Methodicæ," was based on a wide acquaintance with previous attempts on the same lines and, evidently stimulated by the success obtained by Linnæus in the natural sciences, aimed at simplifying a difficult subject. Cullen

[1] Stratham: Journal of the Royal Army Medical Corps, 1908, vol. xi., p. 351.

[2] Bulloch: Brit. Med. Jour., 1905, vol. i., p. 1044.

[3] Lord: Journal of Medical Research, Boston, 1908, vol. xix., p. 2.

divided diseases into systematic and local, his first three classes, (1) pyrexiæ, (2) neuroses, and (3) cachexiæ, being systematic or general, and the fourth class locales. Each of these four classes was subdivided into orders and these again into sections, genera, and species. Thus in the class fevers under Order III., exanthemata, the genus variola has two species, discrete and confluent. Subsequent nosologists—Young and Mason Good—severely criticised Cullen's confusion of genera and species. Cullen fully recognised the limitations of methodical nosology, and admitted that he could not surmount some of the difficulties by appending, after the four classes, a catalogue of diseases which for various reasons had not been allotted a place in the foregoing nosology. He, however, not unnaturally argued that, just as the earlier attempts at methodical classification in the natural sciences, particularly in botany by Ray, were unsatisfactory, but by subsequent elaboration became successful, so in course of time a perfect nosological classification should be attained.

South of the Tweed the most important work on the subject was probably that by John Mason Good, M.D., F.R.S., a Fellow of this society, and one of the most encyclopædic and prolific medical writers of the past, who, as it seems to me, has been undeservedly somewhat forgotten. He has, indeed, sometimes been thought to be an American, because on the title-page of his works he describes himself as Mem. Am. Phil. Soc., and F.L.S. of Philadelphia. He was not on the staff of any hospital, but was in general practice in London, and is said to have translated Lucretius in the course of his walks to his patients. His "Physiological System of Nosology, with a Corrected and Simplified Nomenclature" (1817), which met with the approval of the Royal College of Physicians, was based on symptoms, as were the previous classifications of Sauvages, Linnæus, and Cullen. He considered this to be the only method worthy of attention, and remarks epigrammatically that "of the seat of diseases we often know but very little; of their causes far oftener still less." In this connexion it is interesting to note that after much discussion the committee of the first official nomenclature of the Royal College of Physicians (1869) decided that the proposed classification should be based upon anatomical considerations. Good also wrote a "Study of Medicine" in 1822 in four volumes which, in a posthumous fourth edition (1834), was expanded into five volumes under the supervision of Samuel Cooper, a well-known surgeon to University College Hospital. The classification given in this work differs much from that of Cullen. Good gives six classes:—(I.) Cœliaca; (II.) Pneumatica, Diseases of the Respiratory System; (III.) Hæmatica, Diseases of the Sanguineous Function, including the specific fevers, visceral inflammations, suppurations; (IV.) Neurotica, Diseases of the Nervous Function; (V.) Genetica, Diseases of the Sexual Function; and (VI.) Eccritica, or Diseases of the "Excernent" Function; included under this last head are corpulency, dropsy, tumours, and skin diseases. Each class has orders, genera, and species, as shown by the first page of the table of classification.

Class I. Cœliaca.
Diseases of the Digestive Function.
Ord. I. Enterica.
Affecting the Alimentary Canal.
Gen. I. Odontia.
Misdentition.
Spec. 1. O. Dentitionis.
Teething.
2. Dolorosa.
Toothache.
3. Stuporis.
Tooth edge.
4. Deformis.
Deformity of the teeth.
5. Edentula.
Toothlessness.
6. Incrustans.
Tartar of the teeth.
7. Excrescens.
Excrescent gums.

This is sufficiently elaborate but his original nosology further gave subheadings of the species, for example:—

O. Dentitionis—
(*a*) Lactantium; cutting the teeth or shedding teeth.
(*b*) Puerilis; cutting the second set or permanent teeth.
(*c*) Adultorum; cutting the adult or wise teeth.
(*d*) Senilium; cutting teeth in advanced life or old age.

James Copland, *Orator* in 1822, published in the same year an essay on "The Physiology and Pathology of Certain Parts of the Animal Economy, usually denominated the Ganglionic Class of Nerves" (the sympathetic system), in the course of which he arranges diseases in four classes, each divided into orders, genera, and species. The four classes are: (I.) Diseases which consist in a diminution in the natural energy with which the ganglionic functions of an organ or part are performed. (II.) Diseases due to a morbid increase of the ganglionic functions of an organ or part. (III.) Diseases consisting, at one period of their course, of a degree of excitement or reaction of the influence of the ganglionic system, either in an individual organ or texture or more or less throughout the body. (IV.) Disorders which cannot be exclusively arranged under any one of the preceding classes, but most frequently are the consequences of one or more of the diseased actions by which these classes are characterised. Copland's article in the *London Repository, Monthly Journal, and Review* (1822, vol. xvii., p. 369), of which he was the editor, was an abstract of a more detailed exposition which was promised for future publication, but apparently did not see the light. This scheme of nosology has attracted little or no attention, but it is of interest as an early example of the tendency to explain all diseases by the nervous system.

These elaborate classifications were an academic exercise rather than of practical utility. For Dr. William Farr, the acknowledged founder of the science of vital statistics, who compiled the statistics at the General Register Office, Somerset House, from 1838 to 1879, attempted to arrange the death-returns first under Cullen's and later under Mason Good's classifications, but found it impossible to return the diseases under the classes and orders of the nosologies.[4] Interest in nosological systems appears to have died a natural death after Mason Good's works; and systematic works such as Addison's and Bright's "Elements of Practical Medicine," of which the first and only volume, by Addison, was published in 1839, do not appear to deal with the subject. Since then nosological problems have not appealed to English-speaking nations, but in France in 1907 Lancereaux and Paulesco[5] presented to the Académie de Médecine a scheme for the classification and nomenclature of diseases which was referred to a commission[6] who reported favourably and proposed the following somewhat modified classification based purely on etiology:—

1. Diseases caused by physical agents or Physinoses (νόσος, Disease)—
E.G. Thermonoses = diseases caused by heat.
Photonoses = diseases caused by light.
Electronoses = diseases caused by electricity.
2. Diseases caused by chemical agents or Cheminoses—
E.G. Saturnism, Iodism.
3. Diseases caused by living agents or Bionoses.
Divided into the animal and vegetable, the latter of course containing bacterial diseases.
4. Diseases caused by moral and intellectual agents or Psychonoses.
5. Diseases caused by nutritional factors or Trophonoses.
This class, admittedly unsatisfactory, is made up of the two diatheses scrofula and arthritism; the latter of which, appearing under the new name of dystrophic diathesis, covers a very large field—viz., diabetes, gout, chronic rheumatism, and most tumours.

There is, it must be confessed, a certain fascination about the attempt to fit each disease into its appropriate niche in a formal classification; it recalls our struggles with the "dissected puzzles" of one's childhood. But at present our knowledge is not sufficiently complete to allow a permanent classification to be constructed. In fact, it is probably more difficult now to attempt such a classification than it was in Cullen's time, for though knowledge has advanced it has thereby made our ignorance more obvious, and we realise that any scheme of classification adopted for convenience and practical purposes may almost any day be disturbed by a new discovery.

As the result of research and analysis new diseases are constantly being described, some of which will take an established place in the list of diseases, whereas others are

[4] *Vide* letter to the Registrar-General by Dr. John Tatham in the Sixty-fourth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England and Wales, 1901, p. 30.
[5] Lancereaux et Paulesco: Bulletin de l'Académie de Médecine, Paris, 1907, vol. lvii., p. 150.
[6] Rapport de la Commission de la Révision de la Nomenclature des Maladies, composée de MM. Lancereaux, Blanchard, Jungfleisch, Reclus, et Fernet, ibid., 1907, vol. lvii., p. 258.

really only aberrant forms of recognised conditions. At the same time, as the outcome of broader knowledge, some conditions previously regarded as distinct are being shown to be local manifestations of a single underlying morbid process or as different types of essentially the same pathological condition. Thus cerebellar ataxia is not distinct from hereditary ataxia but only a form of it; just as tabes and general paralysis are two local divisions of a single morbid process (Mott). Or, to take a comparatively old example, granular kidney, failing heart, and cerebral hæmorrhage are the peripheral results of the general pathological process which begins as a metabolic disturbance and gives rise to an increased blood pressure and so to arterial sclerosis.

Again, the various manifestations of well recognised infections, such as tuberculosis and syphilis, in different parts of the body are grouped together in some systematic works on medicine, and the same process might be adopted with regard to pneumococcal, gonococcal, and other infections. This is a logical method of classification, but it can scarcely be adopted in its entirety, for it is often more convenient to classify diseases according to the part of the body affected than according to the underlying cause; thus acute peritonitis is at present more conveniently classified as an abdominal disease due to various causes than as a local manifestation of infection with pneumococci, streptococci, *B. coli*. Moreover, a strictly etiological classification might be difficult in cases of mixed infection.

In some instances it is difficult to classify a disease in any way except as of obscure or doubtful origin. It is at present, therefore, better to be content with a classification based on a compromise of the etiological and regional considerations than to attempt to force all diseases into a rigid scheme, based exclusively either on the etiological factors or on the organs mainly affected.

The present official nomenclature, whatever may be said about its limitations, indeed shows a very open mind in the classification adopted; the divisions are: 1. Infective diseases. 2. Intoxications. 3. General diseases not included in the two preceding groups (the anæmias, gout, diabetes, osteo-arthritis). 4. General morbid conditions incident to various parts (malformations, new growths, &c.). And the main part of the work: 5. Diseases of the various systems of the body (nervous system, circulatory, &c.). Some of these groups are, so to speak, repositories into which diseases of doubtful etiology can be left until we have an accurate and exhaustive knowledge of the real causes at work.

The bearing of the classification of diseases on the relations of physicians and surgeons.—Lastly, a few words may perhaps be devoted to a consideration of the change which new methods of treatment have gradually brought about in the broad classification of diseases into those which are medical and those which are surgical. In general practice this distinction is not of quite the same moment as it is in hospital practice and *personnel*. It worked well in the days when surgery could be accurately described as "external medicine," but at the present time it leads to a wholly unnatural division in the treatment of disease. In these days when specialism is inevitable one man should be able to treat at least one group of diseases from start to finish; this has been fully recognised by gynæcologists, who though mainly physicians in name are highly skilled surgeons in deed; and much the same is true as regards laryngologists. But the general physician who diagnoses a cerebral tumour, an abscess in the lung, or a renal calculus, is obliged, by his want of equipment, to call on his surgical colleague to complete the cure. The natural outcome of this unsatisfactory state of affairs is that at the present time younger men mainly follow the attractive rewards of surgical practice which now deals so successfully with many diseases formerly within the province of the physician. The experience gained by operative measures so increases the surgeon's powers of diagnosis that he may declare, with the humour which conceals a great truth, that "a surgeon is a physician who can use his hands," and even act on the maxim "Chirurgus sum: nihil medicum a me alienum puto."[7] Not only has the physician's field of activity thus become narrowed but his function as a diagnostician is increasingly restricted by the importance of bacteriological tests and skiagraphy, for the accuracy and value of which he must depend on experts. Further, immunisation has come to take a prominent part in treatment other than purely surgical, and Sir Almroth Wright has predicted that "the physician of the future will be an immunisator"; it must, therefore, be admitted that the pure physician, should he still survive, will be in a parlous plight between the surgeon and the deep sea of bacteriology. The remedy for this, it would seem, is, as foreshadowed by Sir Clifford Allbutt in the preface to his address, "On the Historical Relations of Medicine and Surgery," delivered at St. Louis in 1904, that the existing spheres of influence should be rearranged; therefore, as a first step the general physician and the general surgeon of hospitals should be merged and reappear as medical officers to departments or wards for special parts of the body. The medical officer in charge of the neurological department should be equally competent to diagnose and treat tuberculous meningitis, a cerebral abscess, a fractured spine, and neurasthenia; the medical officers in charge of the wards for abdominal diseases should be trained to operate when required, and in like manner the medical officers responsible for intrathoracic disease, with which might be combined disorders of the blood and of the ductless glands, should undertake the entire treatment of their cases. There are no doubt many initial difficulties in such a radical alteration in the established order of the profession, and it would necessarily have to come about very gradually. In the first place, it would naturally be objected that present physicians, being unskilled in operative technique, would only slowly be replaced by their competent successors; this is undeniable, but in the period of transition the active association of operating assistants would enable the hospital routine to be carried on. Difficulties would also arise in connexion with the allotment of some forms of disease, though in course of time a satisfactory arrangement would, no doubt, be arrived at after due consideration. Possibly surgery of the extremities and removal of superficial tumours, such as carcinoma of the breast, might, together with orthopædics, form a special group; diseases of the kidneys might be associated with diseases of the male genito-urinary organs and gynæcology respectively in the two sexes, and there might well be a department for fevers and for conditions of doubtful diagnosis. The out-patient departments would probably have to be less specialised, so as to insure a general education both for the medical officers and for students. This may seem visionary, but, as has been said, the principle is already in practice in the case of gynæcology and obstetrics.

[7] Vide The Annual Oration for 1908, Transactions of the Medical Society of London, 1908, vol. xxxi., p. 332.

ON THE NOMENCLATURE OF DISEASES.

The nomenclature of disease is an interesting subject, but in the hurry of the day's work there is little or no time to consider the meaning or the origin of the names of the diseases we are attempting to treat. The nomenclature exists for practical purposes and is convenient but not consistent. Our official nomenclature of the Royal College of Physicians of London undertaken in 1857 was first published in 1869 and is therefore of comparatively recent date. The advantages from a statistical point of view of such a standard nomenclature are obvious; indeed, it was to meet the need felt by the medical department of the army that the construction of such a nomenclature was first mooted. A very definite advantage which should result from such an official pronouncement is the gradual extinction of the numerous synonyms for diseases which often serve only to confuse. By the greater uniformity and accuracy of nomenclature thus obtained conclusions of real value are rendered possible as the result of statistical compilations. The names of diseases have been arrived at in various ways. Some refer to the cause of the disease—for example, alcoholism; some recall the morbid change underlying the symptoms—e.g., neuritis; others mention the most striking symptoms—e.g., paraplegia; or the disease may have a more or less arbitrary name which does not attempt to describe or explain its nature.

To refer to the last category first. In some cases the popular or folk names of diseases, such as "mumps," "influenza," or "scarlatina," have passed into official use and nomenclature. The name is then merely a label, and its meaning and origin may become obscured and almost forgotten in the dust of years; for example, there is room for some discussion as to the exact derivation of "rickets." Names of this kind, however, are so identified with our conception of the disease that any change is undesirable; they are proper and not descriptive names, and though they have

no pretension to scientific exactitude, there is the distinct advantage that they do not pledge us to any special hypothesis. With so many new titles and forms of disease it is a comfort to retain the familiar names and to speak of "measles" instead of "morbilli," and of "German measles" in place of "rubella" or "rötheln."

Among the names employed as labels are those named after the observers responsible for their recognition. Thus Bright's, Addison's, and Hodgkin's diseases, all emanating from one metropolitan hospital, Guy's—an unparalleled achievement—are fully accepted. In passing, it may be mentioned that in quite recent years the terms "Addisonism" and even "Brightism" have been suggested to describe cases which approach but do not quite correspond to Addison's and Bright's disease. These two words, being in much the same category as "meningismus" and "peritonismus," may offend the exact thinker, though they are convenient as non-committal diagnoses. Besides doing honour to masters in medicine whose names might otherwise cease to be remembered, this pious method of nomenclature recalls the history of the disease and in most cases serves as a guide to the original description of the disease. It seems only right and proper that, if retained, the discoverer's name should be religiously confined to the condition which he described, and not extended to cover some allied and modified condition, or applied to part only of what he described. At the present time there is a decided tendency to restrict the title "Bright's disease" to those medical diseases of the kidney which are regarded as nephritis—namely, acute nephritis, the large white and the contracted white kidney, and to exclude from the category the red granular kidney and the lardaceous kidney. Reference to Bright's paper and plates in Vol. I. of the "Reports of Medical Cases" (1827) shows that with the forms of nephritis just mentioned he included the red granular kidney and, though the words lardaceous or amyloid are not used, the lardaceous kidney. When the original author's name comes to be applied to a condition different from that which he described, it is in most instances time to abandon the patronymic and to employ some suitable synonym if this is ready to hand. It must, however, be admitted that there is something to be said for the use in certain circumstances of the describer's name for incomplete examples of the disease which he described in its most characteristic form; for example, Graves's disease is a much more satisfactory label for an incomplete case than exophthalmic goitre, qualified, to make the description accurate, by the words "without any exophthalmos or goitre."

In some instances the original descriptive title is altogether too cumbrous for ordinary practice, and as a result there is an almost irresistible temptation to substitute "Marie's disease" for "hypertrophic pulmonary osteo-arthropathy," and "Raynaud's disease" for "local asphyxia and symmetrical gangrene of the extremities." This is a point worthy of due consideration by those who have occasion to describe a new syndrome. Had it not been for Ord's suggestion of "myxœdema" for "a cretinoid state supervening in adult life in women," "Gull's disease," which indeed was put forward by Professor Osler in the third edition of his text-book (1898), would probably be in daily use. The adopted name for this disease indeed illustrates another advantage of using the discoverer's name—viz., that it does not commit us to a hypothesis of the disease which may or may not prove to be correct. For "myxœdema" implies an excess of mucin in the tissues which is not constant throughout the disease. It might be urged in favour of employing the discoverer's name for diseases, the exact nature of which is not yet clear, that it is a more or less provisional epithet pending exact knowledge, and that in course of time the name will be changed. To some extent this is coming about; the medical diseases of the kidney are as often spoken of as forms of nephritis as of Bright's disease, and "lymphadenoma" is now the official name of Hodgkin's disease.

Whilst admitting the established examples of diseases named after their describers, there is a considerable reluctance to confer this honour widely. In some instances the plunge has been made by admirers in a country other than that which produced the prophet; thus we owe the title "Addison's disease" to Trousseau, and that of "Stokes-Adams disease" to Huchard, showing that from a medical point of view the *entente cordiale* knows no restrictions of time. In some instances, indeed, the describer's name is applied to the disease only or mainly in the foreign country where the baptism occurred. Thus, in 1815, Joseph Hodgson, who was President of the Royal College of Surgeons of England nearly 50 years later (1864), described dilatation of the arch of the aorta, which he distinguished from ordinary aneurysm, and pointed out that the symptoms were those of heart disease rather than of aneurysm. This condition is known in France as "maladie de Hodgson," but in this country the use of this title would probably convey little and might even lead to the suspicion of confusion with Hodgkin's disease. In Germany infantile scurvy is commonly known as "Barlow's disease" from his full accounts of it first in the Transactions of the Royal Medical and Chirurgical Society for 1884 and again in the Bradshaw lecture of 1894. An objection often raised to the use of an authority's name for a disease is that it may do injustice to the man who really, though perhaps less publicly or fully, first drew attention to it. But it is a question whether the observer who first in point of time notes a certain association of symptoms and morbid changes, or he who more thoroughly works out the details and fully establishes the existence of the disease foreshadowed by his predecessor, deserves the most credit. Advances in medicine, as in other sciences, are seldom due to the isolated efforts of one worker; the same idea is maturing in the brains of several, and it is rare that an affection previously quite unsuspected is brought out in such a complete manner as was the malady rightly known as Addison's disease. Thus, as Bright was the first to point out, the association between dropsy, albuminuria, and renal disease was previously recognised by John Blackall. In some instances this difficulty has been solved by the compromise of blending the later describer's name with that of the original observer. In the case of both Stokes-Adams disease and Cheyne-Stokes respiration, the later and fuller account was published by Stokes. Adams's original description of heart-block in 1827 did not attract any attention until the appearance of Stokes's authoritative contribution in 1846; for this reason, or possibly for euphony, Stokes's name is often put first, although Huchard, who baptised it, called it Adams-Stokes syndrome. It is perhaps a matter for regret that the loyal efforts and distinguished name of the veteran Sir Samuel Wilks are not to be perpetuated in Hodgkin-Wilks disease as a synonym for lymphadenoma; for in 1865 he both fully described the disease and unearthed Hodgkin's original account, which lay buried in the Medico-Chirurgical Transactions for 1832.

Another objection, which, however, is not of much weight, is that an observer may be so active and distinguished that his name becomes attached to more than one disease. Thus we have Addison's disease of the suprarenal capsules, Addison's cheloid (morphœa or circumscribed sclerodermia), and Addison's (pernicious) anæmia; and on the surgical side Pott's disease of the spine, Pott's fracture, and Pott's puffy tumour of the skull, and Paget's disease of bone, Paget's disease of the nipple, and the almost forgotten Paget's "recurrent fibroid" (spindle-celled sarcoma of the subcutaneous tissues). Marie's disease, a synonym which is generally used to describe hypertrophic pulmonary osteo-arthropathy, has also been employed to denote hereditary cerebellar ataxia, spondylosis rhizomelica, and even acromegaly. The last is specially unfortunate because Marie's name is more properly connected with osteo-arthropathy, which he was the first to distinguish from acromegaly. Von Recklinghausen's disease is the name commonly employed to describe the combination of multiple neurofibromatosis, areas of cutaneous pigmentation, and molluscous tumours of the skin; but it is also occasionally applied to a combination of conditions described by him—namely, hæmochromatosis, or bronzing of the skin, cirrhosis of the liver, and of the pancreas terminating in diabetes.

On questions of priority national feeling may come in and a disease may have different names in different tongues. The most extreme example of this is probably exophthalmic goitre, which has no less than seven synonyms—Basedow's, Flajani's, Graves's, Marsh's, Parry's, Parsons's, Stokes's disease. Fortunately, some of these, such as Marsh's, Parsons's, and Stokes's disease, are seldom, if ever, used.

Medical men have often described the diseases they suffered from, and in a few instances this double proprietary claim has been recognised by the name of the disease as in Thomsen's disease (myotonia congenita), and Pott's fracture,

which this eminent surgeon sustained in 1756. Cruikshank the anatomist and a near relative of his both suffered from certain cerebral symptoms about which they often compared notes; the relative died first and Cruikshank examined him with care but apparently did not publish the details of the necropsy. With regard to this, Sir Jonathan Hutchinson writes: "If no one has already a better name for the occurrence of sudden epileptoid attacks marked by subjective kakosmia, extreme pallor of face, and a sense of impending death I would venture to suggest that they should be called 'Cruikshank's malady.'"[8] In the case of a few extremely rare and aberrant forms of disease the patient's name has been employed as a label. Thus, Sir Jonathan Hutchinson[9] briefly designates as "Mortimer's malady" what would otherwise be described as "Lupus vulgaris multiplex nonulcerans et non-serpiginosus" occurring in a patient of the name of Mortimer. He also mentions that Marie referred to two brothers (Hagner), who had been regarded by Erb as probably suffering from acromegaly, as being the subjects not of that syndrome but of Hagner's disease. In connexion with this method of labelling diseases we may recall the baptism of the Flexner-Harris strain of the *Bacillus dysenteriæ*, which depends on its isolation by Flexner from the stools of a patient named Harris. To name diseases after the patients is obviously unscientific, and might if it became prevalent lead to endless confusion. But at present this method of nomenclature is so little employed, and then only for extremely rare diseases which otherwise appear to require very lengthy titles, that it need not give rise to serious anxiety.

The most usual method of describing a disease is to mention the morbid change accompanying or causing the symptoms—for example, cerebral hæmorrhage. To this category belong the diseases terminating in "-itis," an affix which, though from the time of Boerhaave usually synonymous with "inflammation of," has only acquired this significance in course of years. As the derivation of this familiar suffix is hardly common knowledge, a few words on this point may perhaps be allowed. Mason Good[10] derived *itis* from ἶτης, meaning hasty, headlong, and attempts to explain its applicability by the sense of "increased and impetuous action" which it conveys. A much more satisfactory derivation and account were given by Dr. T. Buzzard[11] who, twenty years ago, in discussing the question whether the word neuritis rightly described a process of degeneration, quoted an authoritative statement from Professor Kontos of Athens as to the original meaning of words such as nephritis and myelitis: they are really adjectives, the word νόσος (disease) being understood; the association with the idea of inflammation is of later introduction and is probably explained by the overwhelming importance of inflammatory diseases of the various parts of the body. Diseases and morbid conditions can thus be very, perhaps too, easily named by adding the feminine adjectival termination ιτις to the name of the organ inflamed, and some of the words thus coined have aroused considerable criticism on the ground of their polyglot nature and have been described as barbarous; and it must be admitted that there are objections to "Bartholinitis" (inflammation of Bartholin's glands) or "Wirsungitis" (inflammation of Wirsung's duct). The word "appendicitis," constructed by Fitz in 1886, has survived much opposition, Nothnagel's attempt to substitute "scolecoiditis" (inflammation of the worm-shaped appendix, σκωληκοειδὴς ἀπόφυσις) having an historical interest only. It is hardly to be wondered at that "appendicitis" did not appear under A in the New English Dictionary as that volume appeared in 1888, but etymological prejudice perhaps explains why it took 20 years to gain admission into the official "Nomenclature of Diseases" (edition of 1906). In the same way the masculine adjectival termination ιτης is found in ascites (ἀσκός = the belly) and tympanites.[12] Ascites qualifies the word dropsy (ὕδρωψ) understood, and means (ὁ ἀσκίτης ὕδρωψ) the abdominal dropsy; and tympanites (ὁ τυμπάνιτης ὕδρωψ) describes the drum-like or windy dropsy. Pneumonia or *the* pulmonary disease is arrived at in a somewhat similar manner, but in the present era of bacteriology it may perhaps seem curious that the title "*the* disease of the lungs" should not have been conferred on the commonest—namely, tuberculosis, but on acute inflammation.

The pathological method of nomenclature is, on the whole, the most satisfactory, for it usually carries with it an attempt at diagnosis, but it cannot be universally applied, as in some diseases the morbid changes responsible for the group of clinical symptoms are uncertain or unknown; for example, no pathological title could be employed for the important and more or less established class of the neuroses. In some cases the most prominent symptom or manifestation of the disease supplies its title, as in aphonia, agraphia, paroxysmal hæmoglobinuria, or hæmaturia. This often answers well, but in some instances, as in whooping-cough, for which we have no alternative name in English now that the words "kink-host," "kink-cough," and "chin-cough" employed in the North are no longer, as far as I know, used, a patient may have the disease, but at some period of the disease may not present the symptom (the whoop) which is responsible for its name.[13]

DISEASES DUE TO TREATMENT.

In considering the worldly rewards of medicine some have been known to complain that it is the only profession, or perhaps in this connexion we should say trade, which is persistently occupied in cutting its own throat. This is a bald, if not invidious, way of describing the incalculable benefits due to preventive medicine in which this country has played such an important part both in its origination and in its most recent developments—namely, the campaigns against malaria and tuberculosis. True as it is that medicine is always aiming at the extinction of disease, yet in a few instances new morbid conditions have been directly called into existence by methods of treatment which are in every way admirable.

Surgery has not only thrown much light on the "pathology of the living," to adopt Mr. Moynihan's phrase, but it has in a few instances manufactured new diseases. I do not, of course, refer to mistakes in technique which result in failure of the operation, such as peritonitis after laparotomy, infection of the neighbouring tissues with carcinoma during amputation of a cancerous breast, a vicious circle after gastro-enterostomy, Volkmann's ischæmic paralysis due to pressure exerted by splints, or facial paralysis from section of the nerve during removal of a parotid tumour. Probably in the allied category of surgical accidents should be placed cases of pulmonary embolism, often manifested by pleurisy when the emboli are small, after appendicectomy, the necessary manipulation in the course of the operation being sufficient to detach thrombi already formed in branches of the internal iliac and other veins. Again, the occurrence of generalised tuberculosis after excision of tuberculous glands may be explained as the result of handling of glands and the propulsion of their bacilli-laden contents into a vessel. In connexion with this group we may mention unsightly and inconvenient results directly due to operations, such as a ventral hernia after laparotomy, which is a comparatively slight penalty when life has been saved by timely interference, but a somewhat embarrassing sequel of an exploratory operation on a healthy abdomen. Post-operative cheloids probably depend more on the idiosyncrasy of the patient than on the operator.

It is difficult to estimate accurately the influence, if any, of operative interference on chronically inflamed or rapidly growing tissues in the production of malignant disease. In the subjects of multiple exostoses operation on a troublesome exostosis has been known to be rapidly followed by a sarcoma *in situ*. The difficult question then arises whether the rapid growth which necessitated operation was transformed into malignant activity by the surgeon, or whether, as might reasonably be argued, the rapid growth was the first evidence of sarcoma. In the following instance there is some, but not convincing, reason to believe that operative interference excited or accelerated the appearance of sarcoma.

A man with osteitis deformans broke his left humerus, and for eight years afterwards there was some thickening at the site of the union

[8] Hutchinson: Archives of Surgery, 1890-91, vol. ii., p. 305.
[9] Idem, Ibid., 1908, vol. ix., p. 307.
[10] J. Mason Good: A Physiological System of Nosology, 1820, p. lx.
[11] T. Buzzard: Transactions of the Pathological Society of London, 1889, vol. xl., p. 347.
[12] See Achilles Rose, Medical Greek, p. 216, New York, 1908.

[13] "Kink-cough is mostly confined to Scotland. It is derived from the circumstance that the cough returns in paroxysms. The first part of the term is a Scots word, synonymous with fit or paroxysm."—(R. Watt: Treatise on the History, Nature, and Treatment of Chin cough, 1813, p. 13.) Mason Good, who is somewhat independent in his derivations, says that *kin-*, or more correctly *kind-cough*, means child's cough, from the German *kind* = child. "Chin-cough" is an ancient English word; its origin is more obscure than that of kink-cough.

In April, 1908, he bruised it and swelling resulted; it was then cut down upon, as sarcoma was suspected, and scraped. The tissue removed was examined by one of the most skilled pathologists in London with a negative result as regards sarcoma. The patient then fell down and broke his humerus at the site of the incision, and shortly afterwards a large fungating mass appeared in the wound. The arm was amputated at the end of June, 1908, and a spindle-celled sarcoma found. Recurrence has since taken place.

Occasionally operative interference may appear, and here I wish to speak with much caution, to arouse latent disease into activity.

A boy in apparently good health underwent a radical cure for a congenital inguinal hernia by my colleague, Mr. C. T. Dent; this was rapidly followed by ascites and eventually—five months later—after several tappings he died comatose, and an extremely cirrhotic liver was found at the necropsy. Here an operation appears, as in rare instances a fall or exposure to cold has been known to do, to have precipitated the ascites of cirrhosis.

As a set off to these accidents due to surgical interference it is only fair to recall the unexpected but undoubtedly good effects that may follow surgical procedures. Purely exploratory laparotomy may exert a surprising curative effect, although the surgeon is not always able to explain the success of his treatment. Numerous examples of the efficacy of "Laparotomy as a Medical Measure" will be found in Sir Frederick Treves's paper with this title in our Transactions (1898, XXI., 220). It is impossible to attempt a full explanation of these results which in itself would provide material for an interesting paper, but some may be due to the perhaps unconscious division of adhesions, some to variations in the opsonic index of the ascitic fluid before and after incision (tuberculous peritonitis), and some to the production of vascular engorgement after the manner of Bier's treatment.

However beneficial in its ultimate results an operation is necessarily to some extent of the same nature as an injury and therefore like results may follow. Thus operation may precipitate traumatic delirium tremens or an explosion of gout in disposed persons. Neurasthenia may undoubtedly date from a necessary operation and the attendant mental anxiety and profound mental disturbance. Insanity may, as Mr. Dent has shown, occasionally follow any surgical procedure, a sequel which is not necessarily due to a hereditary taint or to the anæsthetic; for between the operation and the onset of mental symptoms there is a period of quiescence, thus distinguishing it from the post-anæsthetic insanity which directly follows the narcosis. But as these results are probably in large measure the "after-effects of injuries," so exhaustively considered in the Oration of last year, and are not the outcome of special changes induced by particular operations, it would be out of place to insist on them further.

Of special interest are morbid conditions due to operations which necessitate some radical change in the normal economy of the body—for example, removal of organs, such as the ovaries or testes, exerting a definite influence on the metabolism of the body. The psychical and physical sequels of castration have long been fully recognised and still demand attention both from the practical point of view and from their bearing on the doctrine of internal secretions. In this last connexion the production of cachexia strumipriva by complete thyroidectomy for goitre is of peculiar historical interest. In 1882 J. L. Reverdin described this sequence of events and in 1883 Kocher gave it this name, but considered that it was due to the injuries inflicted on the structures in the neck. These observations paved the way to the recognition of the causal part played by the thyroid in myxœdema and cretinism, for Sir Felix Semon, after reading Reverdin and Kocher's reports, was struck by the resemblance of the condition to myxœdema and put forward this deduction which, like many other original departures, was at first ridiculed. The discussion thus raised, however, led to the appointment of a special committee of the Clinical Society of London and so to the complete proof of his contention. It has perhaps not been sufficiently recognised that years before this—namely, in 1871—Hilton Fagge definitely associated sporadic cretinism or congenital myxœdema with absence of the thyroid gland, and that Gull's description of "a cretinoid state supervening in adult life in woman" was the first clinical account of myxœdema, so that Guy's Hospital had a considerable share in the recognition of these conditions. Here, again, as in the case of other discoveries, the conception was maturing in the minds of several workers. The connexion of myxœdema with thyroidal insufficiency is now such a well-established tenet of our faith that we have already begun to forget the labourers by whom it was established. This consideration may perhaps justify this brief historical digression.

A disease only produced by surgery and already allotted a place in the "Nomenclature of Diseases" (1906), drawn up by a joint committee appointed by the Royal College of Physicians of London, is the (peptic) jejunal ulcer which occasionally follows gastro-enterostomy, especially the anterior operation. The number of recorded cases, about 60, is so small in comparison with the frequency with which the operation has been performed that it would appear that some as yet unrecognised factor is responsible for the production of the ulcer in those cases in which it occurs.

Whilst the treatment of nasal disease, such as removal of polypi, may cure asthma, it is interesting to note that the removal of polypi has been known to be followed by asthma in a person previously free from the disease.

In a few instances ligatures employed in the course of operation may give rise to very definite morbid conditions; it is hardly necessary to point out that stitch-abscesses come under the heading of surgical accidents due to imperfect technique, and that the occurrence of anthrax and tetanus after the use of catgut ligatures, to which attention has been recently drawn (Richardson),[14] is due to infection directly conveyed. As interesting remote effects reference may be made to gall-stones forming on ligatures and to epiploitis. I have collected eight cases in which operations on the gall-bladder for the removal of gall-stones have been followed by a recurrence of the symptoms due to calculi formed in connexion with sutures. Post-operative epiploitis of a very distinctive kind, with the appearance of an abdominal tumour of a puzzling nature, has been referred to the introduction of silk ligatures into the omentum in the course of herniotomy, of which Schnitzler[15] has collected 28 examples, and other operations, for example, after appendicitis. It may occur weeks, months, or even years after the operation. Occasionally hydrocephalus appears after the cure of a spina bifida. Although it is ungracious to look a gift horse in the mouth it does, I believe, happen, though there are few recorded cases, that after the cut facial has been sutured on to the spinal accessory the patient shrugs his shoulders when he smiles.

Though a critical survey of the subject reveals some interesting instances of what may fairly be called diseases due to surgical procedures they are so insignificant in comparison with the incalculable benefits that we owe to the craft of surgery that it would be absurd to exaggerate their importance. It is, however, obviously advisable to consider carefully beforehand what possible bad effects may follow operations which involve radical alterations in the normal relations of the organs of the body.

The effects of x rays on the skin and other parts of the body provide an example of a group of morbid changes produced by a new method of treatment. The dermatitis is somewhat analogous to sunburn and the occurrence of malignant disease to Kaposi's disease or the appearance of multiple squamous-celled carcinomas in freckles. Considerable interest attaches to the production of sterility as a result of exposure to x rays; this result is probably commoner than is known, for the absence of spermatozoa from the semen thus produced is not accompanied by impotence; Brown and Osgood,[16] indeed, found this condition of unsuspected sterility in 18 persons who had been employed in manipulating x rays for half an hour to four hours three times a week for from two to six years—a very startling result. It has been thought that the active destruction of cells induced in the x ray treatment of leukæmia may do so much damage to the liver as to give rise to cirrhosis. Mosse[17] has reported a case of lymphatic leukæmia cured by x rays in which the patient succumbed a year later to cirrhosis and ascites. Pleurisy with effusion has also been thought to be caused by exposure to x rays.

Although it might logically be only consistent to refer to the toxic effects produced by drugs, for example, arsenic and iodide of potassium, a detailed catalogue of these results

[14] Richardson: Tetanus occurring after Surgical Operations, Brit. Med. Jour., 1909, vol. i., p. 948.
[15] Schnitzler: Wiener klinische Rundschau, 1900, vol. xiv., p. 4.
[16] Brown and Osgood: American Journal of Surgery, 1905, quoted in Osler and Macrae's Modern Medicine, vol. i., p. 62.
[17] Mosse: Berliner klinische Wochenschrift, 1908, vol. xlvi., p. 1219.

would not only be tedious but indeed unnecessary, since the effects are examples of well-recognised forms of poisoning.

In the medical treatment of acute gastric hæmorrhage due to ulcer it occasionally happens that when nothing, not even water, is allowed by the mouth, parotitis follows apparently because the dry condition of the mouth favours an ascending infection of Stenson's duct. Fortunately, it appears, from the scanty references made to it in medical literature, to be rare; but in 1000 consecutive cases of gastric ulcer treated medically at St. George's Hospital it occurred in 23 cases, or 2·3 per cent.; of the 1000 cases 470 were treated by complete oral starvation, and among these there were 21, or 4·5 per cent., cases of secondary parotitis; the two remaining cases of parotitis were in patients on rectal feeding who were allowed to suck ice. It therefore appears that treatment inducing a dry mouth is a definite cause of parotitis.

Great interest attaches to the pathological effects of horse-serum, either normal or when containing specific anti-bodies as in anti-diphtheritic serum. The symptoms of the "serum disease," which in a certain proportion of cases follows the injection of a curative serum, are too well known to require any description. They are usually trivial, and even though in exceptional cases they are severe, about 19 deaths being on record, the benefits of serum therapy are so universal that these infinitesimal risks must be neglected. Recently it has been shown that the entrance of an alien serum into the blood gradually produces a condition of hyper-sensitiveness to a further dose of the serum. This condition of anaphylaxis,[18] which is exactly the opposite of immunity, has been extensively investigated in the guinea-pig, and it has been shown that in this animal death with widespread degeneration of the capillary endothelium and hæmorrhages may be brought about by a second injection of horse-serum given after a certain interval (Gay and Southard[19]). The guinea-pigs take about ten days for this hyper-sensitiveness to develop, but in human beings it appears to take longer. Thus if the interval between the two injections is from three to six weeks there is an "immediate reaction," the symptoms of serum disease (rash, &c.) appearing within a few minutes to 24 hours instead of from seven to 12 days as after a single injection. If the interval between the two injections is longer, three months or so, there is an "accelerated reaction" which appears in five or six days. From the large amount of material under their observation Currie[20] and Goodall[21] have collected a considerable number of these reactions, but fortunately it does not appear that the results in man are likely to prove fatal or that they are so severe as in experimental guinea-pigs. The importance of anaphylaxis or hyper-sensitiveness is far reaching, for it occurs in connexion with injection of vaccines and is thus the important factor underlying the positive reaction in the various tuberculin tests. In addition, the peculiar symptoms produced in some persons by eggs and usually ascribed to idiosyncrasy are probably examples of anaphylaxis, and it has been suggested that some cases of puerperal eclampsia are of this nature and due to the absorption of the products of autolysis of the placenta.

Whatever the effect on my audience I have not exhausted the subject of the diseases and morbid conditions directly due to treatment, nor is it necessary to attempt to do so, for probably we all make a practice, not only of estimating any good that may have followed our treatment, but also of closely considering what bad results may possibly be due to our active interference.

[18] The word "anaphylaxis" (contrary to protection) which has not escaped etymological criticism (THE LANCET, Dec. 12th, 1908, p. 1774) was invented by Professor Charles Richet (Comptes Rendus de la Société de Biologie, Paris, 1905, vol. lviii., p. 109).

[19] Gay and Southard: Journal of Medical Research, Boston, 1907, vol. xvi., p. 143.

[20] Currie: Journal of Hygiene, 1907, vol. vii., p. 35.

[21] Goodall, ibid., p. 607.

UNIVERSITY OF LONDON.—The new Physiology Institute at University College (University of London), funds for the building of which were provided by the generosity of Mr. Ludwig Mond and Dr. Aders Plimmer and by the bequest of the late Mr. T. Webb, will be opened on June 18th by the Right Hon. R. B. Haldane, Secretary of State for War.

A Lecture
ON
THE TREATMENT OF CHRONIC DISEASE OF THE HEART.

Delivered at the Medical Graduates' College and Polyclinic on May 13th, 1909,

BY F. J. WETHERED, M.D. LOND., F.R.C.P. LOND.,

PHYSICIAN (WITH CARE OF OUT-PATIENTS) TO THE MIDDLESEX HOSPITAL, BERNERS-STREET, W.; PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

GENTLEMEN,—The treatment of well-marked failure of the heart is generally understood by medical practitioners and duly appreciated by patients. When there was marked dyspnœa, rapid, irregular pulse, ascites, œdema of the extremities, and other signs of back-pressure, the therapeutic measures which should be adopted are undoubted—namely, cardiac tonics such as digitalis, strophanthus, strychnia, the administration of oxygen, and the like, with due regulation of the diet, removal of fluid by paracentesis or "tapping," suitable purgation, and last but not least—rest. Considerable relief can often speedily be obtained to the above symptoms by the proper adoption of the measures I have indicated, but when the malady has assumed a more chronic condition the perseverance of the medical man and the patience of the sufferer are both severely taxed. In the acute stage of cardiac disease all efforts must be devoted to the establishment of satisfactory compensation, the mechanism of the circulation has to be adjusted, mainly by the dilatation and hypertrophy of the ventricles, notably the left. The reserve force of the heart's muscle has to be heavily drawn upon and it is on this factor that the success or failure of the treatment will mainly depend. Subsequently, the maintenance of that compensation is equally important and requires a vast amount of care and attention. It is, however, the chronic cases of diseases of the heart to which I wish to confine my remarks this afternoon and to suggest to you the line of treatment which should be adopted, and I shall offer a few practical hints as to the general management of such cases.

The conditions most likely to call for aid are the following: Mitral regurgitation in which there are signs of failing compensation and degeneration of the myocardium, either fatty or fibroid, also certain functional affections of the heart and cardiac overstrain. Aortic regurgitation and mitral stenosis less often come under this category, for when compensation fails in these conditions the course of events is much more acute and the symptoms are more of the class to which I referred in my opening remarks.

The majority of the patients suffering from chronic disease of the heart in the above sense present evidences of alterations in the walls of the heart. In fact, I would go further than this and say that all patients who show indications of cardiac failure, slight or severe, do so because the muscular power of the heart is not equal to the work which it has to perform. I cannot lay too much emphasis on this point, for in the treatment of these cases all our efforts must be devoted to sustaining the reserve force of the heart's muscle, for if that fails our endeavours will be in vain. In the course of my remarks I shall endeavour to suggest how this can best be done.

In the first place I would lay stress on the fact that a thorough cooperation of the patient with the efforts of the practitioner is absolutely necessary for successful results. Hence the vital importance that the doctor should obtain the full confidence of his patient. Then the question arises, how much should a patient be told as to exactly what is the matter with him. As a general rule of life, in order that affairs may move perfectly smoothly, complete candour between the operating parties is necessary. For my own part, however, in the treatment of disease I doubt whether this principle always holds. I think it is very questionable whether the exact condition of the heart should be disclosed to the patient. It will in some measure depend upon personality and individual nature. The use of the

term "heart disease" to a patient is frequently productive of great depression which it is most important to avoid, whilst the necessary injunctions can generally be given with sufficient emphasis without either minimising the seriousness of the condition or pronouncing words that often to the lay mind sound like a death warrant. Once tell some individuals that they have heart disease and very likely they will never know another happy moment. Another matter on which I desire to lay great stress is that restlessness, depression, and apprehensiveness are characteristic symptoms of failure in circulation, and these may be aggravated if patients are told that organic disease of the heart exists. The state of affairs may be explained to such patients in more diplomatic phrases. For instance, they may be told that as age advances certain physiological changes occur in the tissues, that the organ first to feel those changes is the heart in that it cannot respond to any sudden call as in younger life, hence the necessity of refraining from doing anything that might throw a sudden strain on the heart, such as running to catch a train, walking up hill rapidly, &c. There is among laymen a general impression that "heart-disease" is incurable and in one sense of course this is right. But the physician is aware that if certain maxims are observed in many cases life may be prolonged for some years, for a sufficient number of years, perhaps, to enable the patient to die of old age, whatever that may mean.

Again, if a patient has a murmur, should he be told so? Such a term is likely to be misleading. A murmur is only a sound, to the physician it has valuable indications, but a lay person cannot be easily induced to appreciate these indications, therefore in many cases it may be unwise to make use of the word.

Next as to the principles which have to be borne in mind in actually directing the management of a case of chronic cardiac disease. As I have already said, the essential point is to endeavour to sustain the muscular force of the heart. This may be done (1) by increasing the power of the heart; (2) by taking measures to maintain its nutrition; and (3) by reducing the peripheral arterial tension—i.e., the resistance to the heart.

1. *To sustain the force of the heart.*—This is the point to which main attention is usually directed. The administration of what are known as cardiac tonics is the plan that first suggests itself. It is in error, however, because the heart's action is weak and irregular simply to rely on digitalis and strychnia. Such drugs are certainly useful, so also are trophanthus, convallaria, and sparteine. But all these drugs must be used with caution and discrimination. Employed alone they may sometimes be sources of danger, especially in advanced life, from the power they possess of raising arterial tension. Speaking generally, they are more useful in acute heart failure than in more chronic cases; many idiosyncrasies occur and some patients tolerate some of these drugs badly.

Much more can be done by carefully studying the patient's habits of life. We can do much to increase the cardiac reserve by giving the heart rest. In order to do this it is not necessary to make the patient live the life of an invalid. If we can render the work of the heart more even we shall at the same time increase its power. If, then, we find a weak, irregular pulse, indicating that there is not the calm rhythm that there ought to be, a few tactful questions will frequently enable us to ascertain the cause which has upset the tranquillity of the circulation. In a very large number of instances we shall find that some psychic process is at work increasing the irritability and apprehension which, as I have said, are prominent symptoms of a failing or irregular circulation through the brain. A regular cerebral circulation is attended with a feeling of security, a failing circulation with insecurity. If we can in any way help our patients to "throw off life-harming heaviness and cultivate a cheerful disposition" we shall do a great deal towards sustaining the power of the heart. This unfortunately, is by no means easy, but by suggesting a regular mode of life we can be of some help. We are consulted by patients in varying classes of life and we must suggest in accordance with circumstances. One of the most difficult is the business man, with myocardial degeneration, who with a large family to support, finds the restrictions and worries of a city life increasingly difficult. In many of these cases it would be most unwise to advise complete retirement from business. But by dint of questions and hints we can often succeed in so rearranging his daily life that the requisite rest can be obtained.

2. *Measures for promoting the nutrition of the heart.*—In order to bring this about we must insure that the coronary circulation is satisfactory. This can best be accomplished by regulating the amount of exercise and rest that the patient takes. The principal object is to stimulate the arterial circulation in the muscles, to hasten the venous currents, and also to promote the passage of lymph through the lymphatic channels. The whole metabolism of the body is thus improved, and the result is eventually shown in a better digestion and general relief of the nervous symptoms. This result may be brought about in the more simple cases by directing the patient to take walking exercise daily, the length of the walk being gradually increased and the gradient up which the patient walks being also raised if possible. At the same time, the patient should pause occasionally and take a few deep respirations. Thus, the lungs requiring more blood, the heart is temporarily relieved. Marked dyspnœa or pain across the upper chest are both symptoms which should receive due attention, being valuable guides to the amount of exertion which may be considered beneficial. For those who cannot take active exercise massage may be adopted, whereby the tendency to stagnant circulation is materially lessened. This measure is particularly useful in assisting to stimulate the coronary circulation in those patients who are bedridden, or compelled to take very little exercise, and on that account tend to impairment of the heart's nutrition and suffer from chilly extremities, feeble pulse, torpid digestion, and passive pulmonary congestion.

3. *To reduce the peripheral resistance.*—Before discussing the mechanical means which have been introduced with the object of regulating exercise I shall briefly consider the third principle which should govern our treatment—namely, the reduction of the peripheral resistance. I do not think that this element has been sufficiently emphasised or understood. It is evident we can attempt to help the heart either by increasing its power or reducing the work which it has to do—that is to say, by reducing the tension in the peripheral vessels. To some extent this may be done by drugs, although recent investigations have shown that the vasodilators as a rule only cause very temporary lowering of the tension, and are more of use when a temporary relaxation of the walls of the vessels is required than when a prolonged effect is required. Thus the vapour of amyl nitrite is very rapid in its action, and so is useful in an attack of angina pectoris, when immediate and decided action is necessary. The same remark applies to nitroglycerine, usually prescribed in the form of liquor trinitrini or in tablet form. For a more prolonged action nitrite of sodium will be found satisfactory. I have also obtained good results from the administration of iodide of potassium (from three to five grains) with the bicarbonates of sodium and potassium. These may be combined with the cardiac tonics, strophanthus being given if the tension is inclined to be high.

I have now to consider mechanical methods of treating chronic heart disease. I would here speak with due caution, basing my remarks on my own experience as well as on discussions which have taken place from time to time in the medical press and at the societies. These methods may be divided into treatment by baths and by exercises. I will first speak of the baths.

Certain spas, notably Nauheim, have derived great reputation for the treatment of cardiac affections. Indeed, at one time there was almost a tendency amongst the public to think that if anyone was a sufferer from heart disease he must go to Nauheim. Fortunately, that feeling is not so strong as formerly. Personally, I believe that certain cases may derive considerable benefit from a visit to Nauheim or other spa where waters highly charged with carbonic acid may be obtained. There is a decided limitation, however, to the cases which may benefit, but perhaps my reasons for expressing these opinions will not coincide with those of other physicians. I have already laid stress on certain symptoms which cause such distress to some cases of chronic heart disease—namely, restlessness and apprehensiveness. The mere fact of "doing something" for these patients, the knowledge that some active measures are being taken other than taking drugs, have a very beneficial effect on some

individuals. If we can succeed in calming their apprehension and removing them for a time from their gloomy introspective habits we shall have done great service. At Nauheim various strengths of baths are given and it gives a great sense of encouragement to the patient when he is allowed to go from a weak bath to a strong one, especially when he is immersed in the "Strom Bad" he feels he is indeed making progress, and the nervous symptoms are accordingly relieved. Further, the temperature of the bath tends to produce dilatation of the peripheral vessels and so may relieve the heart in that way. For my own part, I also believe that the effect of the carbonic acid at a high pressure increases the dilatation of the vessels and that an effervescent bath has rather more effect than an ordinary bath at the same temperature; I admit, however, the mental processes may again play an important part. On getting out of the strongest bath the skin is certainly red, and, as I say, I believe this stimulation has some real though perhaps slight effect. Next as to the various forms of graduated exercises that have been introduced. The three chief varieties are well known to you—the hill-climbing of Oertel, the mechanical contrivances of Zander, and the resistance exercises of the brothers Schott. It is, indeed, important to remember that in the majority of cases of the class of diseases I am now considering a certain amount of regulated exercise is demanded. It is a great mistake for these patients to consider themselves as bed- or sofa-ridden. But the exercise must be carefully controlled. Generally a few simple precautions are all that is necessary, but in some instances a regular course is of benefit, for the same reasons which I gave in the case of the baths, firstly, because it proves to the patient that "something is being done" for him. The consciousness of this is of surpassing benefit to some minds. Secondly, because a muscle in action requires more blood than a muscle at rest. I consider that muscular action properly controlled is useful in some of these cases. For choice I should choose either the hill climbing or the resistance exercises as being the most easy of application. In addition to the movement of the muscles of the trunk and limbs, the deep respirations which are directed to be taken attract more blood to the lungs and so add to the relief experienced by the heart.

I wish entirely to dissociate myself from the practice sometimes adopted of taking diagrams of the tracings of the area of cardiac dulness before and after the baths and exercises. As far as I am aware these tracings have never been scientifically proved. In percussion the personal element enters strongly—perhaps that may be the explanation. It is quite possible that at the end of a course of treatment the heart may be less dilated than before, but I have never been able to determine any alteration after single baths and exercises. Here again I am only expressing my own opinion; other observers may entirely differ from me. To express the matter in a few words, I consider that the benefit which some individuals experience by a visit to Nauheim or other similar resort is due very largely to the regular *régime* under which they are placed, and but little to the actual potency of the waters.

Can similar results be produced at home by artificial baths? My own experience has not been favourable in this respect. If the patients could be induced to undergo precisely the same *régime* as at the spas I think much might be done, but the arrangements in this country do not permit of it unless one of the English watering-places is visited, and even then, much as one dislikes to say it, with one or two praiseworthy exceptions the necessary support is not afforded by the local and hotel authorities to the medical men. The fault does not lie with the medical profession but with those who are responsible for the general social arrangements. Moreover, the mere fact of being sent to a foreign spa, with all the changes in diet and mode of life, the interest of watching foreign folk and customs, adds to the moral effect of the treatment which, in my opinion, has such an influence on the mental attitude of sufferers from chronic heart disease.

Closely allied to the mechanical treatment is the diet. This should be simple, attention being duly paid to the state of the digestive organs. When the gastric circulation is disordered faulty digestion must follow. But beware of the usual "invalid" diet! When will it be fully recognised that much of the carbohydrates is digested by the ptyalin in the saliva? What can be more favourable to fermentation in the stomach than to give starchy pultaceous food which is designed to be swallowed at once without mastication and without proper admixture with the saliva? A certain amount of saliva is undoubtedly swallowed but probably not in sufficient quantity to properly act on the carbohydrates which lie unaltered in the stomach with every tendency to undergo undesirable fermentation. Only such substances then should be given which can be thoroughly masticated. Starchy foods should be given in the form of biscuits or "flowered" potato and directions should be given for thorough mastication. Fish, chicken, boiled mutton, and other digestible foods may be given, preferably in small quantities, and the meals may be supplemented by sandwiches of fresh potted meat or preparations containing meat essences in strong solutions. The diet, however, should be as dry as possible, the liquid being taken at the end of the meal.

Time will only permit of a few remarks on symptomatic treatment. The most important condition probably is insomnia. Want of sleep is a common symptom in heart failure, and if rest be procured great relief will often follow. Simple means, such as change of position, bathing the face with warm water, a handkerchief over the eyes, or a little warm drink may be tried. Frequently, however, a hypnotic will be necessary. After trying many, I have found chloralamide dissolved in rectified spirit the most favourable, commencing with 20 grains and pushing it up to 70 grains if necessary. Veronal in 2 to 7 grains may also be tried, but must be given with caution. Sulphonal or trional I have not found so good. Paraldehyde is sometimes useful. In some instances opium or morphia must be resorted to, the chief contra-indication being pulmonary engorgement.

Palpitation.—This symptom may be caused by the cardiac condition or by digestive disturbance. Strychnia, nux vomica, or digitalis may be necessary, but in many cases the bromides are the most useful drugs.

Indigestion.—If this cannot be remedied by diet, relief may be obtained by the use of drugs as usually prescribed in dyspepsia. If there is undue fermentation I have found taka-diastase a useful preparation. Bismuth in the liquid form, given with nux vomica, may also be tried.

By judicious employment of the methods which I have described in this paper much may be done to relieve the lives of those who are the victims of chronic cardiac disease. Hope springs eternal in the human breast, and although some of our patients may have given way to despair in the belief that their lot can never be improved, yet by perseverance in the directions which I have indicated the lives of such patients may not only be rendered endurable but eventually they may enjoy an immunity from suffering and discomfort which is, indeed, to them a consummation devoutly to be wished.

NOTES ON THE EFFECT OF RADIUM IN RELATION TO SOME PATHOGENIC AND NON-PATHOGENIC BACTERIA.

BY C. E. IREDELL, M.D. LOND., M.R.C.P. LOND.,
SURGEON IN CHARGE OF THE ACTINO-THERAPEUTIC DEPARTMENT, GUY'S HOSPITAL;
AND
E. P. MINETT, M.D., D.P.H.,
ASSISTANT BACTERIOLOGIST, GUY'S HOSPITAL.

THE physical properties of radium are of considerable importance, both from a clinical point of view and in their relationship to x rays, it being a substance which is constantly giving off emanations without appreciably losing weight. These emanations are comprised, as far as is at present known, of three kinds of rays, named respectively α, β, and γ. The α rays consist of particles of matter of the same size as an atom of hydrogen, and travel at one-twentieth of the velocity of light, these properties being similar to those of the anodal rays produced in an x ray tube. The β rays are from 1000 to 2000 times smaller than an atom of hydrogen, and travel with the same velocity as light, these properties being similar to those of the kathodal rays of the x ray tube. Both α and β rays are deflected by a magnetic field. The γ rays differ

from the above in not consisting of particles of matter but of vibrations of the ether of very short wave length, nor can they be deflected or reflected by any known means, travelling always in a straight line. No known substance is absolutely opaque to them, resembling in this respect x rays. The α rays have very little power of penetration but a rather severe effect on the skin, whilst the γ rays are very penetrating but damage the skin very slightly, the β rays occupying an intermediate position in both respects.

Radium when employed for therapeutic purposes was formerly used in powder or small lumps inclosed in either a glass or aluminium tube. This method has now been superseded by spreading the radium, in the form of sulphate, over the surface of a flat metal disc and then fixing by means of a hard varnish.

The earliest form of varnish was employed by Danlos in 1905, but the modified form as used and described by Danne is now commonly used. The sulphate is preferred to the bromide for the form of application on account of its being insoluble, whereas the bromide being readily soluble is more liable to loss and damage in use. When used in the form of bromide it is best used pressed in the thinnest possible layer between a metal back and a thin aluminium or mica window as described by Macleod, who also sums up the advantages of the spreading and varnish method as follows: 1. That by it practically all the rays from the radium are available, the less penetrating rays not being intercepted by the glass, mica, or aluminium window of the older applicators. 2. That in a given quality of radium a much larger radio-active surface is obtained over which the radio-activity is evenly distributed. And it has been estimated that 1 centigramme of a radium salt of an activity of 100,000 has approximately the same effect on tissue as 5 centigrammes of a salt of an activity of 600,000 collected in a small mass in a glass tube.

Radium is now being extensively used at the Radium Institute in Paris for the treatment of various malignant growths, such as epitheliomata, rodent ulcers, &c., and has also been favourably reported on in treatment of angiomata by Wickham and Degraise. With regard to the action of radium on the lower forms of life, ferments, &c., the following is a brief summary of the principal results recorded.

M. Dauphin, working on the effects of radium emanations on the various moulds, concludes that "the rays of radium stop the growth of mycelium of the Mortierella and prevent germination of the spores. This action is, moreover, chiefly paralysing; they cause the appearance of real cysts in the interior of the filaments, evidently organs of defence." He also concludes that spores and mycelium submitted to the action of the radium are not killed, but that they are in a latent state of life and when replaced in normal conditions can once more germinate or continue to develop afresh.

Victor Henri and Mayer found that the radium rays rapidly destroy the activity of the ferments emulsin and tyrosin.

Wilcock later confirmed their results with regard to pepsin, trypsin, and ptyalin, but states rennin to be exceptionally resistant; but Schmidt Nielsen found rennin to be slightly weakened.

Fenton has shown that radium rays produce H_2O_2 in water and Vanderelde showed that these ferments are not only immune to, but more active in, presence of H_2O_2.

Ch. Bouchard and Balthazard working with various bacteria state that when exposed to the emanation from 0·0006 of a milligramme of radium for one hour these organisms suffered a reduction in colour, virulence, and showed an increase of involution forms. They also showed that when the emanations from 0·003 of a milligramme of radium are applied to a growth of *Bacillus pyocyaneus* the pigment (pyocyanin) was still diffused into the media, and further that the colour of *Bacillus prodigiosus* was unaffected. In the case of a stab culture apparently radium only affects the surface colonies and does not penetrate.

A large quantity of radium has recently been acquired for Guy's Hospital, and the treatment of cases is now in active progress; and with a view of ascertaining the action of radium on the various bacteria, both pathogenic and non-pathogenic, advantage was taken of the presence of the radium above alluded to in the hospital for one of us to conduct the following experiments in the bacteriological laboratory by the kind permission of Dr. J. W. H. Eyre. Our object was to determine the direct action of this substance on various cultures and organisms as regards their capacity for growth, chemical properties, staining reactions, and also motility, after being exposed for varying periods of time to the direct action of radium emanations.

The first experiment was conducted with a view to ascertain the capacity for growth of organisms after exposure to radium rays, and also to observe any possible effect on the media used. Plates of nutrient agar were poured and dried for one hour in the incubator at 42° C. After cooling, a loopful of a 24-hours broth culture of *Bacillus pyocyaneus* was spread evenly over the surface of each of these plates. The radium was now applied directly to the surface of the inoculated media, for 10 minutes, 20 minutes, and 60 minutes respectively. After exposure a sterile platinum loop was rubbed over the exposed area and a sloped tube of nutrient agar was inoculated with the loop. Both the tubes and plates were now inoculated for 24 hours at 37° C. and examined for growth, the exposed and unexposed areas on the plates being carefully compared; three cover slides were prepared from the exposed and unexposed areas on the plates, also from the tube growth. These were each stained by weak carbol-fuchsin, carbol-methylene blue, and by Gram's method. After careful comparison, no difference whatever could be detected in the capacity of the organism to take the various stains after exposure, its capacity for growth and reproduction was unimpaired, as also was the amount of pyocyanin diffused into the media. A virulent culture of anthrax, only two strains removed from the human body, was also inoculated in a similar manner to the above, and no difference whatever could be detected in the growth before or after exposure. In addition, portions of a plate showing luxuriant growth were exposed to the radium rays for 30 minutes and 60 minutes respectively. These were afterwards examined for capacity to grow and multiply in comparison with the unexposed areas and found to be identical. Cover slides from the cultures before and after exposure were also stained with a differential stain to demonstrate spore formation, the only difference observed being that after 60 minutes' exposure to radium it was thought that the organism showed a slightly increased tendency to spore formation.

Staphylococcus aureus was also investigated in a similar manner and was found to be unaffected as regards its capacity to grow, multiply, and stain evenly and readily after exposure to radium for periods ranging from 15 minutes up to 60 minutes, it being impossible to detect any difference whatever. Various non-pathogenic organisms were also investigated, such as *Bacillus subtilis*, *Bacillus megatherium*, &c., and all were found to be unaffected as regards capacity for growth, staining reactions, and in some cases motility.

Bacillus coli communis, on account of its importance in bacteriology, was investigated fully as regards growth, staining reactions, and motility after exposure to radium for various periods of time, such as 30 minutes, 60 minutes, &c. One culture was exposed to radium for 17 hours and found to be unaffected. In addition, the fact that its biochemical character was unimpaired was demonstrated both by planting colonies after exposure to radium for various periods on to Conradi and Drigalski litmus, lactose plates; by planting into bile salt litmus broth, and observing acid and gas formation; also planting on to mannite neutral red nutrient agar plates. In every case parallel cultures of the same strain of *Bacillus coli communis* not previously exposed to radium were made and carefully compared, but after examination by three independent and competent observers all were agreed that no change whatever had taken place as a result of the exposure to radium emanations.

The influence of radium rays on the motility and agglutinating powers of organisms was investigated in the following manner. A loopful of a young and vigorous strain of *Bacillus typhosus* was planted into sterile nutrient broth. This was then incubated at 37° C. for 18 hours. At the end of that time a loopful of the culture was examined and was found to be actively motile. To exclude the presence of clumps as a source of error in the subsequent observations a few sterile glass beads were added to the broth culture and placed in an electrical "shaker" for a few minutes. On again examining a hanging drop the organisms were found to be discrete, actively motile, and absolutely free from clumps. Six hanging drops were now prepared from

the same culture and compared at once for motility, freedom from clumps, &c. The controls were labelled Ca, Cb, and Cc, and the others 1, 2, and 3 respectively. They were now exposed to the radium emanations for 15 minutes, 30 minutes, and one hour respectively; then again carefully compared with the control at the end of their respective periods of exposure. This experiment was repeated several times, and the collective results noted. It was found that in the case of *Bacillus typhosus*, in most of the samples examined, a slight increase in motility was observed at the end of 15 minutes, but after 30 and 60 minutes' exposure no difference whatever could be detected between the organisms under observation and the control. This is most interesting, as Fenton has shown that radium rays produce hydrogen peroxide in water, and it would here at least have been reasonable to suppose that, even if the radium rays themselves did not affect the motility and clumping capacity of the *Bacillus typhosus*, the hydrogen peroxide would have done so. Presumably it was formed in very small quantities, if at all in such a short time; consequently being so very dilute the effect was to stimulate the organisms rather than act as a germicide. Cultures of *Bacillus coli communis* were also examined for decrease in motility, if any, a rather more actively motile specimen than usual being used. But none whatever could be detected. Various non-pathogenic organisms were examined at various times and in a similar manner, but in every case the result was negative.

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THE THERAPEUTIC EFFECTS OF RADIUM EMANATIONS IN SOME DISEASES OF THE SKIN.

BY H. RADCLIFFE CROCKER, M.D. LOND., F.R.C.P. LOND.,

PHYSICIAN FOR DISEASES OF THE SKIN AT UNIVERSITY COLLEGE HOSPITAL.

WHILE much has recently been written on the effects of radium on skin diseases, especially when spread and set in a thin layer, I am not aware of any publication on the effects of radium emanations in skin diseases, and the following observations will therefore be of interest. At the beginning of 1906 Sir William Ramsay was kind enough to supply me with these emanations, which are given off in the form of a gas from a solution of radium bromide in very minute quantity as regards bulk, but in spite of this with decided and in some cases very powerful effect. Thus the amount given off from 150 milligrammes in 24 hours was estimated by Sir William Ramsay to be about the fortieth of a large pin's head. At the same time some of the water is decomposed into its component parts of oxygen and hydrogen and the three gases are conducted through capillary tubes to a bulb where by an electric spark the oxygen and hydrogen are reunited into water and the radium emanation is held in solution and after dilution up to two cubic centimetres the fluid is sealed in a glass tube ready for use, which should be soon after it is prepared, as it rapidly loses effect.

It was decided to test the effect of the emanations in two forms, locally and by subcutaneous injection. For the local application I asked Sir William Ramsay to have the solution of the emanation diffused through a weak gelatin jelly. The tube containing the freshly prepared jelly was immersed in warm water to melt it, the tube broken, and the fluid applied to the surface to be treated and covered first with muslin and then with lead foil which was bandaged on. The first case to which it was applied was that of a fireman, aged 44 years, who for the previous two years had suffered from a troublesome eczema of the fingers largely due to having to clean his fire engine. It was in the form of horny scaling of the backs of the fingers of the right hand chiefly but slightly on the left; when the hands were in contact with water the skin became softer and almost "raw." In other ways he was a healthy man. The patient stated that he had a constant succession of attacks; one month the hand was bad, then it would take a month to clear up, and then it would break out again. The affected fingers were wrapped up for a week in a glycerine of subacetate of lead solution without any marked difference. On Jan. 16th, 1906, the right index finger was treated with radium emanation solution as above described for one hour, and the middle finger in the same way for two hours, the glycerine of lead being continued on the thumb and other fingers. On the 19th the skin on the radium-treated fingers was quite pale and the horny thickening much diminished, and the old skin was peeling off, leaving the skin beneath healthy looking. The lead-treated fingers, although showing some improvement, were much behind those treated with radium. On the 23rd the relative improvement was maintained and gelatin without radium emanation was applied to the lead-treated finger to eliminate any source of error in the comparison. On the right fourth finger radium emanation was applied for four hours, and three days later the skin was pale and the diseased epidermis exfoliating. The second finger, which had had the emanation for two hours on the 19th, was better than the index which had had it for one. On the 30th the index, middle, and fourth fingers again had the emanation for two hours. On Feb. 6th there was no marked difference except that the middle finger was no longer painful. The application was repeated for two hours. On the 9th there was a thick layer of scales on the treated fingers but when this was picked off the skin beneath was pale. On the 13th the application was kept on for 12 hours and on the 16th the improvement was much more marked. The greater part of the thickened skin had exfoliated and where this had occurred the skin appeared normal. The contrast between the fingers treated and the ring finger which had had no emanation was very marked. On the 27th the improvement was maintained and the patient was discharged from the hospital.

The case showed first that radium emanations can be used with beneficial effect in a chronic eczematous dermatitis, and secondly, that a more prolonged application (12 hours) was not only safe but much more efficacious than the shorter applications at first employed for fear of evil results from an agent of unknown power. In the next case, therefore, a girl, aged 12 years, with palm-sized hard patches of psoriasis on the knees, the application was made more boldly and she was treated as an out-patient. The procedure was on the same lines and the patches were completely removed and the knees remained well, speaking from memory, for a year or more.

In the two following cases the radium emanation was dissolved in 2 cubic centimetres of distilled water and injected subcutaneously in the interscapular region. The first, a man, aged 30 years, who had been in the Marines from the age of 16 for 12 years, having gained his early admission by saying that he was 18, had seen service in the Mediterranean, off the west coast of Africa and Ascension Island, Spain and Portugal. He had some granulomatous tumours which were diagnosed as due to mycosis fungoides, and although, contrary to his statements, there was reason to believe that there was a syphilitic element, the fact which is important as regards the radium emanation remains that he had granulomatous tumours which yielded to a great extent to the radium injections. The man had been in the University College Hospital in June and July, 1905, and most of the tumours had yielded to x ray exposures. He was readmitted in February, 1906, with nodular tumours from a hazel nut to a walnut in size, chiefly in the scapular regions, especially on the right side. The first injection was made on Feb. 9th in the middle of the vertebral border of the right scapula. The injections were repeated weekly, or nearly so, until May 4th, 13 injections in all. There was slight aching for a short time after the injections, otherwise they gave very little inconvenience, and under their influence the tumours had in great part cleared up and the arms also had improved, but all the lesions had not entirely disappeared.

The second case, a woman, aged 32 years, was an indubitable and uncomplicated case of mycosis fungoides. She first came under my notice as a private patient in June, 1907, the disease dating from June, 1906. As she could not afford x ray treatment and the disease being already in the tumour stage she was admitted into University College Hospital where she was treated for seven weeks with the x rays with

great benefit, most of the tumours disappearing. She subsequently attended irregularly as an out-patient. After being absent from illness for some months she was re-admitted on July 29th, 1908, on account of numerous fresh tumours, very large and fungating on the buttocks and numerous smaller ones scattered about the body and limbs. The treatment was carried out by Dr. George Pernet, then assistant medical officer in the skin department, and in full charge during my absence on holiday. The following is an abstract of his notes. On August 21st the injections were commenced in addition to x ray exposures for the buttocks, the emanation being collected in 24 hours from 231 milligrammes of radium and injected under the left scapula. On August 25th it was also applied locally in gelatin, covered with lead foil as before described, to a group of granulomata on the flexor surface of the right forearm. It was removed after 24 hours and the surface of the granulomata was covered with blackish looking epithelium. There was no pain felt. On the 28th it was noted that apparently as the result of the first injection there was more discharge from all the growths. A second injection was made and on Sept. 1st the discharge was still very abundant from all the open tumours, especially in the axillæ, and she felt more comfortable there; a tar bath also gave her relief. A second local application was also made in the same place. A third injection and local application were made on the 8th. As a result of the latter there was a great deal of discharge at the site of application and some redness and soreness but no pain. The tumours were flatter. There was also some flattening of the tumours of the upper part of the back near the injection site and profuse discharge everywhere. A fourth injection with a similar result was made on the 18th.

Case 3 was a private patient, a lady, who had suffered from a chronic scaly eruption extending all over the covered parts of the body and limbs which had for many years defied medication and spa treatment of all kinds from the principal dermatologists of England and the continent. The eruption had, however, yielded to the x rays, but only at the parts immediately exposed to them. In the hope that the injection of radium emanations might have a wider influence than the x rays she consented to have the experiment made. The details of the disease are published under Case X. of my article on Xantho-erythrodermia Perstans.[1] The first injection was made on May 11th, 1906. On the 18th the site of the injection was sore, swollen, and hard; the same effect was produced by the second and third injections, but the fourth and fifth were injected somewhat deeper and no induration followed, but in the three following made as deeply there was some induration, but less than the first two. On July 3rd, when the eighth was given, there was no material change in the skin condition, but on the 23rd there was considerable change for the better, much of the eruption round the site of the injections having cleared but not completely. On the site of the eighth injection on the left side there was a red raised swelling one inch in diameter, tender but not excessively so. She was not seen again until Oct. 25th, and it was then noted that the skin was paler in the area of injections, but the results were not striking enough for the injections to be continued. On Feb. 25th, 1908, the next time she was seen, the area in which the radium injections had been made was quite clear for a space including the whole scapular region and that of the left deltoid.

Few as these observations are they show that radium emanations have very decided effects, whether used locally or subcutaneously, on chronic inflammations of the skin on the one hand, and on granulomata on the other, and while nothing revolutionary has been or is likely to be obtained from their use, a good case for further investigation has been made out if, and when, as we are promised, a large supply of radium will soon be available in this country to afford these emanations in sufficient quantity daily; radium being like a milch cow, able to give a daily supply for a considerable period, though again like that useful animal, it requires intervals of rest also. An interesting point for investigation is, which of the above effects are due to the alpha and which to the beta and gamma rays. We know that as radium is usually applied, the alpha rays can be screened off by glass, mica, and even paper, leaving nearly all the beta and gamma rays, which have proved so valuable for rodent ulcers in spite of some *ex cathedra* statements to the contrary, while, as Wickham has shown, prolonged exposures through lead-foil are also valuable, the gamma rays being then the chief agent. I am not aware of any experiments on the alpha rays alone, for they are so easily cut off that isolation is difficult. Even in the gelatin solution Sir William Ramsay estimates that probably 50 per cent. are lost, while all the beta and gamma rays would be available. On the other hand, in the subcutaneous injection of a simple solution in water of the emanation all the rays could take effect. The painful swellings produced in one of the cases by subcutaneous injection were absent in the other two, and can be diminished by the injections being deeply made; still it is a drawback which must be faced as a possibility and would tend to restrict the hypodermic use to diseases of severity or resistance to other therapeutic measures; but as regards the local application no trouble of any kind was observed. It was hoped that opportunity for further observations would have been afforded, but so large a quantity of the radium salt is tied up for a considerable time to obtain the emanations that this has not been the case.

Harley-street, W.

[1] British Journal of Dermatology, vol. xvii., 1905.

THE ELECTRO-CARDIOGRAM OF MAN AND OF THE DOG AS SHOWN BY EINTHOVEN'S STRING GALVANOMETER.

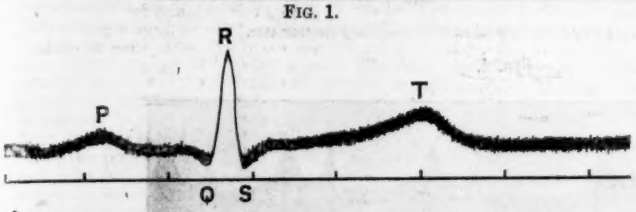
BY A. D. WALLER, M.D. ABERD., F.R.S.

A VISIT to Leyden during the Easter vacation and a review of the extensive collection of human electro-cardiograms gathered together by Professor Einthoven during the last ten years have very materially assisted me to a general understanding of the information he has obtained by this method of investigation. My own observations in 1887 were limited to the demonstration of the facts and of the favourable and of the unfavourable physical conditions of the demonstration in accordance with the position of the heart, and I certainly had no idea that the electrical signs of the heart's action could ever be utilised for clinical investigation. Indeed, while even now the points that appear to me to be of principal interest are in the first place the bare fact that by leading off from the extremities of any man, woman, or child the electrical effects accompanying the heart beat can be seen and photographed, and in the second place the general conclusion derived from a comparative study of electro-cardiograms to the effect that the normal progress of muscular contraction is essentially similar in man and in the dog and in the frog, I am constrained to admit that Professor Einthoven's results, obtained with the extraordinarily sensitive galvanometer he has invented, show that the method is capable of giving real information unattainable by any other means, besides bringing out with a clearness and distinctness unapproachable by any other instrument the actual details of the normal electro-cardiogram.

In my first experiments I only noted a double positive effect with each ventricular systole, the first effect being small and of rather doubtful direction, the second being longer and more prominent and simultaneous with the ventricular systole. These are the waves R and T of the series of five waves P, Q, R, S, T, that Einthoven distinguishes (Figs. 1 and 2) in the normal electro-cardiogram. To recognise these points it is necessary to study the typical electro-cardiogram of the human subject with, e.g., the right hand and the left foot placed in connexion with the two poles of Einthoven's galvanometer. With the instrument at my disposal in 1887—Lippmann's capillary electrometer—the first wave P, which is due to the auricular contraction, was altogether invisible and the two negative waves Q and S immediately preceding and succeeding the first ventricular wave R could not be distinguished. Einthoven now shows that in cases of hypertrophy of the right ventricle resulting from mitral regurgitation this first ventricular wave R is considerably increased, whereas in cases of hypertrophy of the left ventricle resulting from aortic regurgitation R is reduced or actually of reversed direction, downwards instead of upwards. The fact is unexpected, but quite clear and

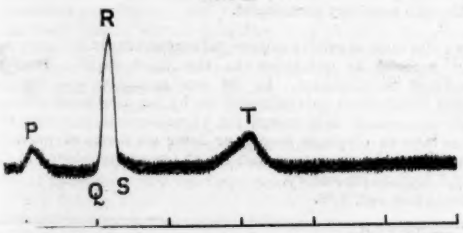
characteristic, while by no means easily explained. If upward movement signifies negativity of the base of the heart downward movement signifies negativity of the apex of the heart, and it is difficult to understand why such a reversal should be an effect of mere hypertrophy of the ventricle. Another change pointed out by Einthoven as being characteristic of mitral stenosis is, perhaps, easier to account for—viz., an exaggeration of the auricular wave P signifying very probably an exaggeration of the auricular contraction. The indications of "heart-block" where two auricular beats occur to each ventricular beat, or where the auricular and ventricular beats are completely dissociated; the abnormal (allorhythmic) abortive beats of an unfilled heart leading to dropped pulse beats; various forms of atypical heart beat with or without the production of an arterial pulse are all very clearly brought out in Einthoven's electro-cardiograms, and throw light not otherwise obtainable upon obscure clinical manifestations of

FIG. 1.



Einthoven's normal electro-cardiogram of the human subject led off to the galvanometer by the right hand and the left foot. The scale marks tenths of seconds.

FIG. 2.



Einthoven's normal electro-cardiogram of a dog led off to the galvanometer by the front and back legs. The scale marks tenths of seconds.

disorderly cardiac action. I do not however imagine, nor I believe does Einthoven, that the string galvanometer, however useful and even necessary it may be in the physiological laboratory, is likely to find any very extensive use in the hospital as affording means of physical diagnosis more searching than those in daily use. It can at most be of rare and occasional use to afford a concrete graphic record of some rare anomaly of cardiac action, as it has already in the hands of Einthoven, Lewis, and others served to bring into clear evidence the extraordinary disorders of contraction of which the diseased heart is capable. But for all ordinary purposes of diagnosis the finger-tips of the physician will hardly be helped by an instrument as difficult to manage and to interpret as is the string galvanometer.

A minor but interesting point in Einthoven's tracings is the rhythmic waxing and waning of the first ventricular wave R, with expiration and inspiration in the case of oblique leading off of the heart. This is in conformity with my first observations which showed how the lead off was more or less favourable according as the heart is more or less tilted, and with the demonstration given by Bouchard some years ago on the Roentgen screen of the fact that the heart is pulled down and rendered less oblique with each inspiratory descent of the diaphragm.

A few words of explanation are necessary to make clear the system adopted by Einthoven in the presentation of the positive and negative features of his electro-cardiograms. He follows the same plan as I originally described in giving the right hand as a lead-off from the base and the left hand as a lead-off from the apex, both feet being, of course, leads from the apex. He systematically takes three electro-cardiograms, the first with the right and left hands, the second with the right hand and left foot, and the third with the left hand and left foot; in all three cases the first-named extremity is base and the second-named extremity is apex, and the connexion with the galvanometer is always made such that negativity of base shall read upwards and negativity of apex downwards.

I think that the principal service hitherto rendered by this beautiful instrument has been to confirm and harden our acceptance of the doctrine that the contraction of the heart is essentially a wave of activity sweeping along a muscular tube from its venous to its arterial end.

From Figs. 1 and 2 the almost exact identity between the sequences of events in the heart of the dog and in that of man is clearly apparent; in both cases the electrogram is composed of an auricular element P and of a double ventricular element R and T; the most probable interpretation of these three positive waves is that they signify negativity of the auricle P, followed by an initial negativity R of the base of the ventricular mass at the commencement of systole and by a terminal negativity T of the base at the end of systole. This double negativity, which was pointed out many years ago by Bayliss and Starling and Gotch, can be understood by reference to the development of the ventricle as a twisted muscular chamber of which the auricular and aortic orifices are closely juxtaposed towards the base of the organ, so that a wave of muscular action sweeping over the whole mass begins at the base and ends at the base. This is very clearly the case in the frog's heart, where the ventricular contraction can actually be seen to terminate by contraction of the bulbus arteriosus, and where, mechanically as well as electrically, the contraction of the base begins earlier and ceases later than that of the apex. Thus in the frog's heart, as in he human heart, the base of the organ is twice in unbalanced negativity, the two phases B B being separated by a brief systolic interval during which the action of the base is balanced by the simultaneous action of the apex, so that the normal sequence of action as regards the ventricular mass is B A B. Figs. 3 and 4 illustrate this probable interpretation, and bring out very clearly by an example the essential identity between the ventricular contraction of a frog's heart and that of a man's heart, in complement to Figs. 1 and 2, by which the essential identity between the cardiac event in man and in the dog is made evident. In both cases shown in these figures each ventricular contraction exhibits two prominent elevations (base twice negative) separated by a depression (apex negative). These elevations correspond with Einthoven's waves R and T (Figs. 1 and 2). In the description that I gave in my "Introduction to Human Physiology" (first edition, 1890, p. 389) the ventricular sequence is described as base-apex-base, or B-A-B, B and B corresponding with Einthoven's R and T—i.e., in Figs. 3 and 4 each elevation corresponds to B, A being the valley between.

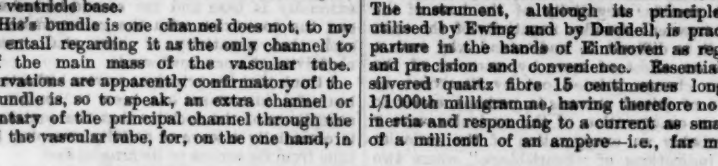
It must be admitted, however, that this simple explanation of the double negativity of the ventricle is not all-sufficient, and that there are features such as the variability in direction of the ventricular wave R and T in pathological states that are more easily accounted for on the supposition that "His's bundle" radiating from the auricular septum to the inner surface of the ventricles is a special channel of communication between auricles and ventricles, and that through this channel the ventricular mass can be brought into action simultaneously at many points or unequally and irregularly at different points. Normally the ventricular mass contracts as a whole, the systolic state being initiated and terminated at the base, but abnormally it is possible that an atypical systole may take origin at the apex or at other points of the mass by the channel of His's bundle, which although chiefly muscular as to structure, is also in part nervous, and is separate from the general muscular mass of the ventricle, apparently playing the part of a special conductor of impulses from auricle to ventricle. This is the explanation invoked by Einthoven, and one that I am disposed to accept as necessary, partly on account of the atypical systole occasionally witnessed on human electro-cardiograms, partly on account of the undoubted sequence occasionally witnessed on the excised mammalian heart—

viz., negativity first of the auricle, then of the ventricle apex, and finally of the ventricle base.

The view that His's bundle is one channel does not, to my mind, necessarily entail regarding it as the only channel to the exclusion of the main mass of the vascular tube. Pathological observations are apparently confirmatory of the view that His's bundle is, so to speak, an extra channel or by-pass supplementary of the principal channel through the muscular mass of the vascular tube, for, on the one hand, in cases of allorhythmia where His's bundle has been found degenerated the degeneration has been found to extend to other parts, while, on the other hand, cases have been reported of well-marked degeneration of His's bundle where the cardiac rhythm had been previously observed to be normal.

In conclusion, it should be observed that the use of Einthoven's galvanometer is by no means confined to the investigation of the human heart, although no doubt this has hitherto constituted its most noteworthy application. The instrument, although its principle was previously utilised by Ewing and by Duddell, is practically a new departure in the hands of Einthoven as regards sensitiveness and precision and convenience. Essentially it consists of a silvered quartz fibre 15 centimetres long, weighing only 1/1000th milligramme, having therefore no appreciable lag or inertia and responding to a current as small as the millionth of a millionth of an ampère—i.e., far more sensitive even than the most sensitive mirror-galvanometers in ordinary use and superior in quickness to the most rapidly reacting capillary electrometer. In its less sensitive and handier forms Einthoven's galvanometer is by far the most efficient and convenient instrument for physiological purposes and is certain to displace sooner or later all forms of galvanometers and electrometers that are at present employed in the physiological laboratory.

FIG. 3.



Electro-cardiogram of a frog's ventricle taken with a capillary electrometer.

FIG. 4.

Electro-cardiogram of the human heart taken with a capillary electrometer.

Grove End-road, N.W.

THE CAUSE OF DEATH AFTER OPERATION IN ACUTE APPENDICITIS.

BY CHARLES A. MORTON, F.R.C.S. ENG.,

PROFESSOR OF SURGERY IN UNIVERSITY COLLEGE, BRISTOL; SENIOR SURGEON TO THE GENERAL HOSPITAL, AND THE CHILDREN'S HOSPITAL, BRISTOL.

AFTER operations for acute suppurative appendicitis some patients die with symptoms of profound toxic poisoning. The symptoms of an acute appendicitis are marked, but the child does not appear to be in a dangerous condition; an operation is performed, some focus of suppuration or a gangrenous appendix is found, pus is evacuated, and perhaps the appendix is removed. There seems good reason to expect recovery, and yet perhaps a few hours after the patient has regained consciousness, or it may be 12 or more hours later, the pulse begins to fail; there may be frequent vomiting (starting after the anæsthetic vomiting has ceased if it has been present), great restlessness, or drowsiness, or delirium, or coma, or jaundice, sometimes one of these symptoms, sometimes another, often several. The temperature rarely rises or, at any rate if it does, rarely exceeds what was present before operation, and more often does not reach above 99° F. There are no symptoms suggesting a spread of the abdominal mischief, nor is such spread found at the post-mortem examination. Abdominal pain, rigidity, and tenderness are markedly absent. These patients are not desperately bad at the time of the operation or immediately after it—i.e., they do not suffer from shock, and yet after an interval in which they seem to be progressing favourably these serious symptoms arise, and they do so, in my experience, almost always in children and not in adults. What are these symptoms due to, and what is their relation to the operation? These are the questions which I propose to consider.

It may be that the fatal result in some of the cases is in no way connected with the operation; for instance, in those dying three days later. They might have died in this way, at almost the same time, or even earlier, had no operation been performed, and no doubt few, if any, of them would have recovered without an operation, yet several of them died so soon after operation, whereas they were not desperately bad before, that one is driven to the conclusion that in some way or other the operation did hasten their end.

Excluding cases of diffuse peritonitis in which suppuration was extending widely in the lower abdomen, and cases of general peritonitis, and also those of mechanical obstruction from adhesions, and kinking in acute appendicitis, I have had 147 cases of operation in acute appendicitis—non-suppurative, suppurative, or gangrenous, and in these 147 there have been (up to a few months ago when this paper was written) 18 deaths. Ten of the deaths were of the nature I am considering in this paper, and two more cases referred to in this paper were deaths in diffuse peritonitis. It may be interesting to mention the other causes of death in the 147 acute cases. In two, rupture of the abscess occurred into the peritoneal cavity though external drainage was established; in two, acute bronchitis proved fatal; two patients died from prolonged suppuration; and one from general and one from portal pyæmia. There are only two cases in which the operation was followed by a spread of peritonitis; in one of these it was no more than would lead to protective adhesions in the neighbourhood of the drainage-tube, and in the other very little more and not enough to be the cause of death.

In some of the cases I am specially considering in this paper the symptoms are like those now recognised as due to late chloroform poisoning. Indeed, it is quite possible that the administration of chloroform has really brought on the fatal condition in a patient rendered specially susceptible to such poisonous action of the chloroform by the action of a septic toxin on the tissues of the

body. The septic toxin may so damage the tissues that the chloroform has a poisonous action it would not otherwise have. The fact that nearly every one of my cases has been a child is somewhat suggestive as to this cause, for it is well recognised that late chloroform poisoning is much more common in children than in adults. Mr. Harold J. Stiles[1] holds the view that the fatal result in many septic abdominal cases is brought about by the toxic action of chloroform in addition to septic poisoning. In cases of late chloroform poisoning fatty infiltration of the liver is nearly always marked, and we usually find acetone in the urine or the breath, and diacetic acid in the urine also. Some of my earlier cases of death with symptoms of toxic poisoning occurred before the condition of late chloroform poisoning was recognised, but in one of the more recent cases I failed to find any naked-eye appearances of fatty infiltration of the liver (Case 2 in abstract of cases) and in another microscopic section showed it to be very slight (Case 3 in abstract of cases). Acetone was present in the urine of the case in which there was no fatty infiltration of the liver. But if fatty infiltration of the liver is present it does not prove that the condition is due to late chloroform poisoning, for such a condition (though usually less marked than in delayed chloroform poisoning) is present in septic diseases, and acetone and diacetic acid may be present in the urine in so many different morbid conditions, or even in apparent health.

But we must also consider whether the symptoms could have been due to the absorption of a septic toxin, present before operation, but not absorbed until a raw surface was produced by the operation wound. The symptoms in all the cases could not have been produced in this way, for in one (Case 2 in abstract of cases), although the appendix was gangrenous, it was wrapped up in omentum, and there was no surrounding infection, and the whole of the septic focus was removed, leaving no pus-producing area to infect the wound; yet the girl died comatose in less than 24 hours. In another case (Case 7) there was no pus outside a gangrenous appendix at the time of removal, though some pus formed later in the area infected from it, but this was packed with iodoform gauze. In all the other cases there was the possibility of absorption of toxin through the recent wound, but if the symptoms were due to this, and this alone, such absorption ought to set in within a short time of the operation in all cases; for we know that it is before protective granulations form in a wound that it is best able to absorb poisonous fluids. It might be that such symptoms would not start immediately after the production of the raw area, even if produced in this way, for the dose absorbed might for a short time be insufficient, and the lethal effect only produced after the absorption of some amount of the toxin in the course of several hours. But in Case 4 the symptoms did not come on for 24 hours after operation, in Case 9 not for 36 hours after, and in Cases 5 and 10 not for three days after. These intervals between the time of production of the raw surface and the time of the onset of symptoms seem to me too long to be consistent with the view that the two were cause and effect. It hardly seems likely that within three days, or even within 24 hours, enough toxin would not have been absorbed to produce symptoms when the toxæmia, when once established, was so great that death rapidly occurred, if the symptoms were entirely due to such absorption from the raw surface.

We must also consider whether in sponging out the pus in some of these cases I could have damaged the peritoneum, and led to absorption of toxin in this way. There was never any attempt to rub the peritoneum, only very gentle sponging, and this I do not think could have so injured it as to allow of toxin absorption to a greater extent than existed before. Moreover, the same objection would apply to this explanation as to that of absorption from the wound—the long interval before the onset of symptoms in some cases. Neither do I think destruction of peritoneal surface by the entrance of any antiseptic into the suppurating area can have led to increased toxin absorption. Several of the cases have occurred since I adopted the practice of wringing out all sponges in saline solution and dipping hands and instruments in saline solution before introducing them into the peritoneal cavity; and before I adopted this practice sponges were wrung out of no stronger lotion than 1 in 4000 biniodide of mercury, and wrung dry before being introduced into the peritoneal cavity.

[1] Brit. Med. Jour., 1908, vol. ii., p. 1164.

Then the question must be considered as to whether any of these deaths were due to delayed or "secondary" shock. Only in one case was any marked failure of pulse present at the end of the operation—i.e., one could not say they suffered from shock at that time. This so-called "secondary shock" is a curious condition. Why should it occur? Is it really pure shock? Is it not more often sepsis with toxic absorption? The nature of certain of the cases could hardly be explained by such a thing. Frequent vomiting, jaundice, delirium, and coma are not symptoms of shock, primary or secondary. We cannot suppose that the symptoms were due to iodoform poisoning. In only two or three cases was iodoform gauze used for packing or as a "wick" in a drainage-tube, and in no other way was iodoform applied to the raw surface in the other cases.

It seems to me that when we come to ask ourselves what is the immediate cause of death in many cases, we can only give a most imperfect answer to our question. In very widely diffused or general purulent peritonitis we are not surprised if the patient dies, and we say that death is due to a toxæmia. But what is the nature of the poison, and does it act on the cardiac muscle or the nervous system? If on the nervous system, in what way does it produce death? Is it vaso-motor paralysis, as many believe it is in shock, or in what other way does it kill? Although the cause of death after severe injuries and operation (i.e., shock) has been so carefully considered and so fully discussed, yet the actual cause of death in many diseases has been very little investigated and about it very little is known. If a person has obstruction in the air passages and rapidly dies the mechanism of death is easy to understand; but why does a patient slowly fail and die because a malignant growth in his body has attained a very large size, or because there is inflammation of the membranes of his brain? And, as I suggested before, even if death in such diseases as septic peritonitis, spreading infective gangrene, and erysipelas is due to the absorption of some toxin due to the growth of micro-organisms, we know so little of the way in which it brings about the death of the patient that whenever a profound toxæmia is established, and we cannot drain away, or by stimulating excretion eliminate the toxin, its action is beyond our control. I do not forget the use of antistreptococcic serum, but I do not think many of us are able to place much reliance on its beneficial action. Moreover, it is more useful at an early stage of septic disease, for it is antibacterial rather than antitoxic in its action.

Now, though the cause of these deaths after operation in acute appendicitis is obscure, have we enough light on the question to enable us to do anything to prevent their occurrence? If it should be shown that chloroform has anything to do with them, clearly we should be wise in following Mr. Harold Stiles's practice and never give chloroform, even to children, with acute septic conditions. It seems to me that though as yet the cause of these symptoms is doubtful, it might be wise to give ether by the open method to children suffering in this way. A general anæsthetic might be dispensed with altogether and spinal anæsthesia used in adults, but those cases which resemble late chloroform poisoning occur much more frequently in children, and children do not seem to me good subjects for spinal anæsthesia because they are so apt to get frightened and might not be very quiet. Moreover, in young children it would be difficult to say what would be the right dose to employ. Enough ether might, however, be given to produce anæsthesia for the lumbar puncture.

Can we prevent absorption of toxins from the raw surface of the wound? If facts supported the view that the symptoms are due to this, we might take strong measures to destroy its absorbing surface by applying a solution of chloride of zinc or pure carbolic acid, and packing between the drainage-tube and the raw surface with iodoform gauze. Even though absorption from the raw surface is quite a doubtful cause, it might be well, especially in children, whilst stitching up the wound to apply a little pure carbolic acid to the raw surface around the drainage-tube and to pack some strong iodoform gauze around the drainage-tube so as to separate it from the raw surfaces. It might also be a wise precaution to employ Cathcart's suction drainage apparatus until the wound was granulating so as to drain the pus right away from the wound, or if the peritoneal cavity is well shut off from the abscess sac frequent, or even continuous, irrigation of the sac with saline solution

might be employed to wash out in a very dilute form all toxins.

I have so far been writing of cases of death after operation in well-localised appendicitis or appendix abscess. But we must recognise the fact that in some cases of diffuse peritonitis the patients die rapidly after operation not from continued spread of the peritonitis but with simply a rapid and failing pulse and without vomiting, abdominal pain, or increasing distension (Case 11), and at the post-mortem examination there is very little extension of the peritonitis as revealed at the operation, and the actual cause of death is a question for consideration in the same way as in cases of localised appendicitis. I know how insidious the symptoms may be in some cases of spreading suppurative peritonitis, only a failing pulse and perhaps increasing distension, but in these cases I am writing about the post-mortem examination showed, as I say, hardly any increase of the peritonitis from the time of the operation.

ABSTRACT OF CASES.

CASE 1.—A boy, aged 12 years, was admitted to the General Hospital, Bristol, on Jan. 1st, 1908, with a very large appendix abscess which was opened and drained under chloroform. His condition was not very bad before operation. The temperature was 101° F. The pulse began to fail about 12 hours after operation, vomiting of dark fluid set in and continued frequently. On the next day his pulse could hardly be counted. Subcutaneous saline infusion was resorted to and several pints were absorbed. The patient died within 48 hours of the operation without cerebral symptoms. At the post-mortem examination no spread of infection was found to have occurred within the abdomen. The abscess sac had not been packed with iodoform gauze, as it was well shut off from the peritoneal cavity at the time of the operation, but a very small piece had been used to pack the opening through the abdominal wall around the drainage-tube, as the tissues were sloughy and there was a little persistent oozing.

CASE 2.—A girl, aged 12 years, was admitted into the Children's Hospital, Bristol, on Feb. 11th, 1908, with a gangrenous appendix and a history of repeated rigors. There was a temperature of 103·8° F. on that morning, but she did not seem desperately bad and had a good pulse. I removed the appendix under chloroform; it was wrapped up in omentum and there was no surrounding infection. Unless portal pyæmia had already started I expected a good recovery. The pulse kept all right for several hours after the operation, but within 12 hours of the operation the patient became comatose with failing pulse and died. The temperature was raised, but not above 102°. Some acetone was found in the urine passed just after the operation. Vomiting was present, but this may have been ordinary anæsthetic vomiting. The liver presented no naked-eye appearance of fatty change. A little greenish-grey adherent clot was found in the portal vein, but no signs of embolic infection in the liver.

CASE 3.—A boy, aged six years, was admitted into the General Hospital under my care on May 19th, 1908, with diffuse purulent peritonitis in the lower abdomen and right loin from perforation of the appendix, which was removed. His pulse at the end of the operation was 140, but fairly strong. The operation was performed at 6 P.M. under chloroform. The patient had a very restless night, but vomiting was not frequent, and the pulse remained about 120 up to 8 A.M. On that morning the patient became unconscious with some retraction of the head and occasional rigidity of the arms, and he died in the afternoon. There was vomiting of dark fluid but not frequent vomiting. The temperature did not exceed 100·4°. There was no smell of acetone in the breath. The urine could not be obtained for examination during life, and a specimen removed from the bladder after death was unfortunately thrown away. The post-mortem examination showed very little, if any, extension of the peritonitis. The upper abdomen was free from peritonitis except for a trace of lymph on the spleen. There was also just a trace of lymph at the base of the right lung. The pathologist reported that sections of the liver showed degeneration of liver cells in the centre of the lobules but very slight increase of fatty tissue, and that neither heart muscle, pancreas, or kidneys showed any degeneration on microscopic section.

CASE 4.—On August 23rd, 1907, I went into the country and operated on a boy, aged 12 years, with a large but well-localised appendix abscess, under chloroform. The pulse was only 100 and quite strong at the end of the operation. The patient seemed to be progressing satisfactorily when I saw him again next day, but that evening he became delirious, and violently so in the night; he then became comatose and died on the following day. There was occasional retching. There was no smell of acetone in the breath. The urine could not be obtained for examination. There was no jaundice. The highest temperature after operation was 101° F. No post-mortem examination was possible. Iodoform gauze packing was not used in this case; only a drainage-tube was inserted.

CASE 5.—A boy, aged 12 years, was admitted to the General Hospital on March 2nd, 1907, with a localised appendix abscess; operation was proceeded with on March 3rd under chloroform. Iodoform gauze packing was left in for three days, and when removed it still smelt strongly of iodoform. The patient went on well until the 6th (when the packing was removed) and then he began to get restless and vomiting set in. The pulse was 120. The highest temperature after the operation was 99·4° F., except a few hours after the operation when it was 100°, and at the time of death it was 101°. On the 7th the condition of restlessness continued and the pulse was 140. Jaundice was then also present and the vomiting had become frequent, the vomited matter being of a dark-brown colour. These symptoms continued until death took place on the 10th. The abdomen remained soft and flat on the left side until the day before death, and then it became moderately distended. There was no abdominal pain. No acetone smell could be detected in the breath. I have no note as to the condition of the urine. At the post-mortem examination we found that there had been some extension of a dry peritonitis up to the edge of the liver and somewhat over the stomach, but this seemed hardly enough to give rise to the symptoms, which seemed more likely to be due to a toxic poison from the suppurative area. Up to the day before death there had been no signs of a spread of abdominal mischief and then only some moderate distension was present. No mechanical obstruction was found in the bile-ducts.

CASE 6.—A boy, aged ten years, was operated upon in he Children's Hospital on Dec. 5th, 1898, for localised appendix abscess under chloroform. A drainage-tube was inserted with a "wick" of iodoform gauze. The condition of the patient was good at the end of the operation. Vomiting of black material began 12 hours after the operation, but was not very frequent. The pulse began to fail at the same time. Towards the end the patient became unconscious to his surroundings and screamed loudly. He died 40 hours after the operation. The temperature remained at about 100° F. after the operation. The post-mortem examination showed no general infection of the peritoneum, only some peritonitis quite localised in the region where the abscess had been opened and drained through the peritoneal cavity.

CASE 7.—A boy, aged 10 years, was operated on in the General Hospital on July 17th, 1906, and a partly gangrenous appendix was removed under chloroform. There was no suppuration outside the appendix. A very little iodoform gauze packing was left in and a drainage-tube. The patient's condition was good at the end of the operation. The gauze was removed two days after the operation. Up to that time there had been no symptoms since the operation, but soon after the removal of the gauze the patient became restless, two hours later jaundiced, and five days after operation he became comatose and died. There was no vomiting, and no rise of temperature until just before death. The post-mortem examination only showed local suppuration where the appendix had been.

CASE 8.—A boy, aged seven years, was admitted into the General Hospital in October, 1902, with an appendix abscess. The appendix was removed and the abscess was drained. The operation was carried out at 7 P.M. and the patient's condition was good at the end of it. He was rather restless but otherwise alright when seen by the house surgeon at 11.30 P.M., and a very small hypodermic injection of morphine was given. I could not ascertain what the condition had been during the night but he died at 8 A.M. The post-mortem examination showed no spread of peritonitis from the original focus.

CASE 9.—A girl, aged 14 years, was admitted to the General Hospital on Dec. 11th, 1903, with a large appendix abscess. The appendix was removed and the abscess was drained. The patient was in a satisfactory condition at the end of the operation and she remained so during the next day. There was no vomiting after the operation and the abdomen, which was less distended than before, was soft and tender. Great restlessness and a very rapid pulse (without a temperature above 100° F.) set in at 2 A.M. on the second night and the patient died on the following evening without further symptoms. The post-mortem examination showed no extension of infection within the abdomen.

CASE 10.—A woman, aged 30 years, was admitted to the General Hospital with a ruptured appendix abscess, and pus was sponged out of the pelvis and right loin. The patient went on satisfactorily until the third day after the operation, when she became jaundiced. Later she became comatose, and she died on the fifth day with a temperature of 105° F. The post-mortem examination showed some lymph on a few pelvic coils. This was noticed to be starting at the time of the operation, and it had increased afterwards, but was certainly not enough to cause death. There was no suppuration in the liver.

CASE 11.—A boy, aged ten years, admitted to the General Hospital on Feb. 10th, 1906, with diffuse peritonitis from appendix disease, was operated upon by sponging out the pus, removing the appendix, and draining. The patient died in 24 hours with a gradually failing pulse from the time of operation, but there was almost no vomiting, and no signs of increasing peritonitis were met with. There was very little, if any, extension of the peritonitis found at the post-mortem examination from what was present at the operation.

CASE 12.—A boy, aged five years, was admitted to the Children's Hospital on Dec. 18th, 1902, with a large appendix abscess, resonant with the gas of decomposition, which was drained. On the next day the patient had a very rapid pulse, vomiting was present, and the abdomen was tender, and I found that general peritonitis had set in. Death took place 36 hours after the operation, and no infection of the general peritoneal cavity was found. There were sloughs of the iliac muscle in the floor of the abscess sac. The highest temperature after the operation was 101° F.

Types of cases.—Not very bad at the time of operation or just after (with the exception of Case 11, in which the pulse was very feeble after the operation), though acute illness was present. Little or no pyrexia after operation. No spread of disease, present at the operation, was found post mortem.

Symptoms.—1. Rapid failure of pulse and frequent vomiting (Cases 12 and 1). 2. Rapid failure of pulse and coma and perhaps delirium, and vomiting: Case 2 (anæsthetic vomiting), Case 3 (some vomiting), and Case 4 (some retching). 3. Great restlessness, failure of pulse, jaundice, and then coma (Case 7). 4. Great restlessness and rapid pulse, without vomiting or cerebral symptoms (Cases 8 and 9).

Cases with very slight spread of peritonitis after operation, and not enough in any case to cause death or to account for the symptoms.—Symptoms.—1. Jaundice, coma, and very high temperature at end of case (Case 10). 2. Frequent vomiting, delirium, and coma (Case 6). 3. Jaundice, frequent vomiting, slow failure of pulse with almost no pyrexia (Case 5). 4. Rapid failure of pulse, continued vomiting, and other symptoms (Case 11).

PS.—Since writing this paper Professor W. E. Dixon and Dr. Harvey have published a paper[2] on the treatment of acute toxæmia. That paper does not deal with the forms of toxæmia referred to in the present paper, and therefore does not give any assistance in considering the cause of death in these septic cases; but the authors show that the effect of the diphtheria toxin frequently causes death by paralysing the vaso-motor centre, and therefore that such patients die in the same way as they do in surgical shock, and that injection of saline solution into the circulation is useful in

[2] Proceedings of the Royal Society of Medicine, December, 1908.

the one condition as it is in the other. Perhaps it may be found that some of the septic toxæmias cause death also by paralysis of the vaso-motor centre.

Bristol.

PROSTATIC CALCULI:

THREE CASES ILLUSTRATING A NEW METHOD FOR THEIR SUCCESSFUL REMOVAL BY THE COMBINED SUPRAPUBIC AND PERINEAL ROUTES.

BY J. LYNN THOMAS, C.B., F.R.C.S. ENG.,

SURGEON TO THE CARDIFF INFIRMARY AND TO THE ROYAL HAMADRYAD HOSPITAL, CARDIFF.

AT the Sheffield meeting of the British Medical Association I described a simplified method of performing prostatectomy by the combined suprapubic and perineal routes, and contended that from a theoretical standpoint the combined method should be the operation of choice, and in support of my conclusions I recorded 12 consecutive and successful cases. I now desire to record my experience of three cases of prostatic calculi treated successfully on the same lines as were indicated in that paper[1]—viz., firstly, by suprapubic cystotomy, and followed by perineal opening made transvesically and large enough to admit the forefinger from the perineum.

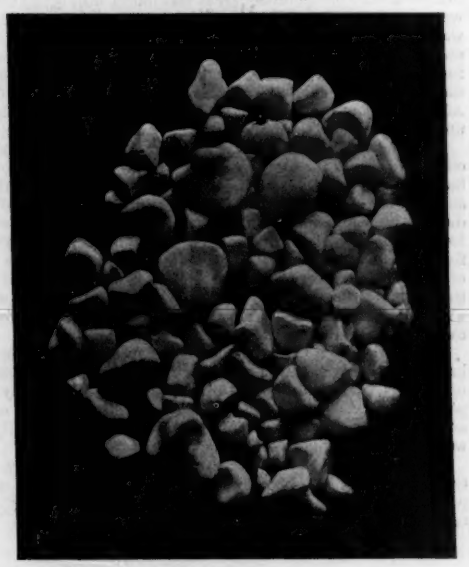
In my method of operating the patient is lying on his back with his thighs separated during the whole operation. I wish to draw special attention to the difference that exists between the perineal opening made in cases of prostatectomy and in those now under consideration; in the former the perineal opening does not involve the urethra at all, as it extends from *the bottom of the bed of the prostate*, whilst in the latter the opening is made through the membranous urethra. In the three cases which I now record I could demonstrate that the mucous membrane of the urethra was pushed down as far as the incised perineal skin before the point of the special prostatectomy forceps passed transvesically into the urethra, the well-known normal distensibility and strength of the posterior urethra allowing it to be readily done. My first case is a striking illustration that during the operation there is no serious disturbance of the anatomical conditions or relationship between the urethra and rectum, because in it there existed a recto-urethral fistula at the time of operation, which subsequently healed without giving further trouble. There need be no unnatural tension upon the parts between the rectum and the urethra if counter-pressure be applied to the perineum during the passage of the curved forceps through the bladder towards it. My present observations are confined to the treatment of these cases.

CASE 1. *101 prostatic calculi; recto-urethral fistula; stricture of vesical urethral opening.*—The patient, aged 63 years, had suffered for over 20 years from "stricture at the neck of the bladder" and had to carry with him, and use, catheters on and off owing to stoppage. For some months before operation he had been passing air bubbles through the urethra and quantities of slimy mucus with feculent odour and with acid urine. Per rectum the prostate felt enlarged and was exquisitely tender. A No. 6 catheter could with much difficulty be passed into the bladder. Dr. C. C. Shepherd and I had advised operation about four years before the patient submitted to it.

After performing suprapubic cystotomy the vesical urethral opening was found to be contracted, rigid, and unyielding to dilating force, so it was incised sufficiently to admit the tip of my forefinger which I then passed into a biggish pouch in the prostatic urethra bulging towards the rectum, and which was full of calculi represented in Fig. 1. Owing to the difficulty in removing the concretions and also on account of the highly septic condition of the cavity I passed my special forceps for prostatectomy to the bottom of the cavity and opened the perineum. By digital manipulation (the forefingers) I removed the 101 calculi through the bladder and the perineum. After thorough irrigation I fixed a five-eighths of an inch prostatectomy rubber tube into the bladder through the perineum. Recovery was rapid and there were no air bubbles passed after the operation. Dr. Shepherd gave ether anæsthesia.

CASE 2.—The patient, aged 62 years, had suffered for about 12 years from irritability of the bladder, night micturition, and had had catheters used on and off for years. His trouble began when he was in South Africa. Mr. G. R. Sparrow of Cardiff and Mr. T. J. Webster of Merthyr Tydvil were of opinion that he had enlarged prostate with chronic septic cystitis, but they were not allowed to pass a metal catheter.

FIG. 1.



On Jan. 23rd, 1908, I performed suprapubic cystotomy under ether anæsthesia, administered by Mr. Sparrow, and was assisted by Mr. Webster. After removing a large, soft, friable, vesical calculus (Fig. 2, marked "Vesical," weighing over one ounce when dry), the bladder and prostate seemed to be normal, and at my request Mr. Webster again examined per rectum and reported that the apparently enlarged prostate which had been previously diagnosed could still be felt. I therefore carefully inspected the

FIG. 2.

V, Vesical. S, Sacculus. P, Prostatic.

base of the bladder and found a small opening about three-quarters of an inch behind the urethral orifice which led into a sacculus with a hard stone (Fig. 2, marked "Sacculus," weight half an ounce when dry) in it, situated between the prostate and rectum. This was removed by incising the opening into the prostatic urethra; and afterwards I again found eight small faceted calculi (Fig. 2, marked "Prostatic"). Perineal drainage was then established by pushing the special forceps through the urethra towards

[1] For details see Brit. Med. Jour., Oct. 3rd, 1908.

the perineum in the manner already referred to, and a five-eighths of an inch rubber tubing was pulled through the suprapubic opening into the perineal wound and fixed there. The patient left the private home with the wounds healed within a month.

CASE 3.—A man was admitted under my care at the Cardiff Infirmary during 1908. He had suffered from irritability of the bladder and pain extending down to his perineum. By cystoscopic examination after injecting indigo-carmine subcutaneously it was found that both kidneys were acting normally and no definite evidence of calculus was demonstrated. The persistence of his symptoms made me perform an exploratory suprapubic cystotomy, and after forcibly dilating the prostatic urethra with my forefinger I discovered a spiculated calculus imbedded in the prostate. After removing it I established perineal drainage and closed up the suprapubic wound. Recovery was uneventful.

The method which I have adopted for operating by the combined routes for some intravesical and prostatic troubles has special advantages of its own. They may be enumerated as follows. 1. The patient is lying in the dorsal position during the whole operation. 2. The additional time required for establishing perineal drainage by my method can be performed in a few seconds. 3. I believe that there is no risk of injuring the rectum as the scalpel is only used to divide the skin and the extruded urethral mucous membrane upon the blunt point of the forceps which is passed transvesically towards the perineum.

It is well known that damage to the rectum, except in the hands of highly skilful operators, is not a rare accident in operations performed upon the prostate and bladder by the perineal route, notwithstanding the attitude taken by some advocates and devotees of this method in touching lightly or wholly ignoring this all-important fact.

I have now performed the combined operations by the transvesical route on 21 consecutive and successful cases for prostatic and bladder trouble without endangering the rectum.

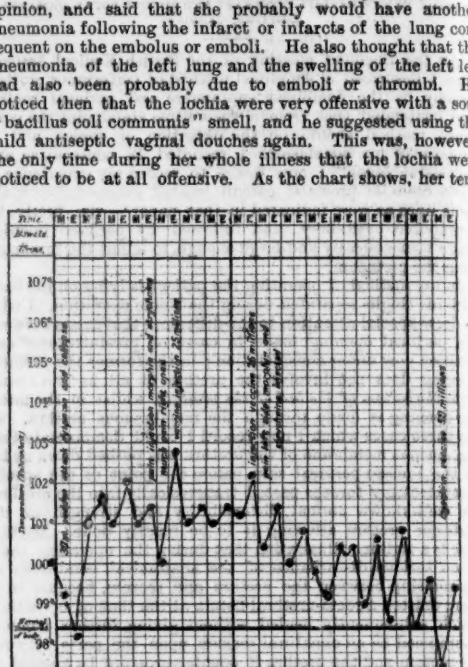
Cardiff.

CASE OF DOUBLE PNEUMONIA AFTER CHILDBIRTH; PULMONARY INFARCTS; INJECTIONS OF VACCINE OF MIXED PNEUMOCOCCI; RECOVERY.

BY GEORGE B. BATTEN, M.D. EDIN.

I ATTENDED a lady, aged 27 years, in April, 1908, with an attack of influenza followed by mild bronchitis and considerable prostration. Three weeks after the commencement, and before she had fully recovered from the effects, she was confined of a healthy male child. Labour was normal and lasted about 12 hours. This was her first child, though four years before she had a miscarriage in the early months. During the first four days her puerperium was quite ordinary; her temperature was normal and her pulse was good, 60 to 70 per minute. She suckled her infant. She had two or three vaginal douches of warm weak lysol. She had a slight cough due to her previous bronchial catarrh. In the evening, four complete days after the confinement, her temperature rose to 99·8° F. and her pulse to 76. On the morning of the fifth day her temperature was down to 99°, but I noticed she had expectorated some dark brown prune-juice sputum; she, however, seemed well and I could find no physical signs. In the evening her temperature rose to 100·8° and her pulse to 110. Within two days I found consolidation and pleurisy over an area on the left side of about the size of a saucer in the middle portion of her lung laterally. I got my partner, Mr. H. Blatherwick, to see her with me and suggested to him that the attack might be due to an infarct, but we agreed it was almost certainly a pneumococcic pneumonia. She had pain and swelling of the calf of her left leg, which I thought might be due to a thrombus in the deep vein. Her temperature varied from 99° to 101°, her pulse from 98 to 120, and her respirations from 19 to 30. She ceased to nurse her baby; belladonna, eau de Cologne, and castor-oil compresses were applied to her breasts, and belladonna and glycerine to her leg. She was doing very well and her pneumonia was resolving quietly, though the sputum remained very dark red and rather plentiful, and therefore a specimen of her sputum was examined, with the result that pneumococci were found to be present but no tubercle bacilli could be detected.

At 3 A.M. on the fourteenth day after the confinement and the eleventh day after the first symptoms of her pneumonia the patient had a very sudden, most alarming attack of dyspnœa and collapse, which, despite strychnine injected and oxygen constantly given, lasted for quite three hours, during which time we all felt that she might die: her colour was grey and then cyanosed, but her pulse, though 130, was not very weak. I felt that she must have had a pulmonary embolus affecting a large area of lung somewhere, and Dr. W. Hale White, who saw her with me the same afternoon, agreed with this opinion, and said that she probably would have another pneumonia following the infarct or infarcts of the lung consequent on the embolus or emboli. He also thought that the pneumonia of the left lung and the swelling of the left leg had also been probably due to emboli or thrombi. He noticed then that the lochia were very offensive with a sour "bacillus coli communis" smell, and he suggested using the mild antiseptic vaginal douches again. This was, however, the only time during her whole illness that the lochia were noticed to be at all offensive. As the chart shows, her temperature rose to 101° within 24 hours and remained between 101° and 102° for the next 60 hours, her pulse from 110 to 130, and her respirations from 30 to 36, and she remained dangerously ill. Pleuro-pneumonia soon developed on the right side, involving the whole of the lower lobes from front to back and the anterior part of the upper lobe. The sputum was increased in quantity, very sanious, but of a brighter colour. Strychnine by the mouth and hypodermically was used frequently as required and inhalations of oxygen were constantly kept up, in fact, the patient would not be without the oxygen. She also had much pleuritic pain, for which one injection of morphine was given with the strychnine with much benefit.



She remained so desperately ill that after consultation with my partners, Mr. Blatherwick and Dr. C. E. Carpmael, we decided to try vaccine treatment controlled by the opsonic method. I accordingly sent a carefully taken specimen of sputum and a swab from the os uteri to Dr. J. W. H. Eyre at the Guy's Laboratory. He examined these and as rapidly as possible prepared vaccines from the organisms isolated, and as the patient's condition then seemed critical he came down at 10 P.M. on Wednesday, the fifteenth day (the fourth day of the fresh attack), and gave her an injection of vaccine consisting of 25 millions of mixed pneumococci made from equal parts of pure culture from her sputum and from her uterine swab. The temperature was then 102·4° and the pulse 120. By 2 A.M. the temperature fell to 101° and remained about that; the pulse, however, was as high as 139 and she was

desperately ill until 48 hours after the injection, when she seemed to rally somewhat and was better. I gave her another injection of 25,000,000 of mixed vaccine on Saturday (the seventh day of new attack), and after a temporary rise to 102° her temperature fell in 15 hours to 100·4° and her respirations to 22. She seemed decidedly better, and we hoped that she was round the corner. She had, however, still considerable pleuritic pain, and another injection of morphine and strychnine was given that evening. Her left thigh and leg then swelled very greatly, though the previous swelling and pain in the left calf had ceased for nearly a week. This swelling went away gradually in four or five days. As I then went away for a previously arranged holiday my partner, Dr. H. M. Stewart, kindly took over the case, and he informed me that she steadily and gradually got better. He, acting under Dr. Eyre's advice, nevertheless gave the patient another injection of vaccine (dose, 50,000,000) on the next Sunday (the fifteenth day of the last attack); after this the temperature soon returned to normal and remained so. On my return a week after this I found the patient convalescent, but still weak and with a few physical signs of the pneumonia just discoverable, and she was expectorating some frothy white sputum, but these disappeared within a few days, and she seemed well eight weeks after the attack, being only bothered with slight swelling of both legs, the right, curiously enough, being the worst. Three months after she was quite well in every way, and has remained well. She took her liquid nourishment wonderfully well all through and was most carefully and efficiently nursed by two most excellent and capable nurses. Her baby also did and is doing very well. I here append Dr. Eyre's notes of the bacteriological aspect of the case, which I think are most interesting and suggestive.

Dr. EYRE'S *report*.—The sequence of events is somewhat as follows:—16th day after confinement: Specimen of sputum examined. Pneumococcus predominant organism present. Swabbing from uterus, contained mixture of pneumococcus and *B. coli communis*. 17th day: Opsonic index of blood to pneumococcus from uterus, 0·55. Index to pneumococcus from sputum, 0·49 (that is, practically identical). 18th day: Injected 25,000,000 mixed pneumococcus vaccine containing equal parts of the pneumococci from each source. 20th day: Blood index to pneumococcus, 1·43. 21st day: Injected 25,000,000 "mixed pneumococcus" vaccine. 24th day: Blood index to pneumococcus, 1·3. 29th day: Injected 50,000,000 "mixed pneumococcus" vaccine. 31st day: Blood index, 1·5. N.B.—On April 28th, 1908, blood index to patient's *B. coli* = 1·6. Therefore, it was not considered necessary to inject *B. coli* vaccine, which, however, was prepared and held in readiness. As the patient's efforts at immunisation against the *B. coli* were entirely successful the administration of coli vaccine was not found necessary at any time. The chief interest in the case to my mind lies in the fact that pneumococci were present in uterine swabbing as well as in sputum, and would seem to indicate a fairly extensive infection, and that the septic uterine discharge and the focus in the lung were part and parcel of the same infection.

The whole sequence of events seem to me (Dr. Batten) to be as follows. Attack of influenza with bronchitis and prostration probably breaking down the patient's resistance to other germs, especially pneumococci. Childbirth further decreasing this resistance and allowing pneumococci to greatly multiply. Probably emboli separating from uterine veins and passing into left lung and either carrying pneumococci there or setting up a condition of infarct in a lung already infected with pneumococci. Thrombus in the left popliteal vein due to the same cause. Almost ordinary course of this left-sided pleuro-pneumonia. Sudden attack due to large emboli blocking large areas in right lung, causing infarcts there with fresh infection by pneumococci on that side, with accompanying critical condition of the patient. Opsonic indices to the two pneumococci found to be 0·55 and 0·49 respectively, proving that lung and uterus were affected by the same pneumococcus. Injection of vaccine of these mixed pneumococci; general improvement in the patient within 48 hours and increase of the opsonic index to 1·43. Further injection of similar vaccine and great further improvement in the patient in 24 hours; opsonic index maintained at 1·30. Still further injection of double dose nine days after with opsonic index increased to 1·50. Gradual convalescence and complete recovery of patient.

It may be argued that the patient may have had the second pneumonias following the first without any emboli and without any infarcts, but the very sudden attack of dyspnœa initiating the very large and curiously distributed right pneumonias, with existence of similar pneumococci in the womb, point most strongly to emboli. It may be urged also that she might have recovered without the injections and of course that is so, but it is not the opinion of the nurses and of those of us who watched her through it all. I myself believe that the injections helped her to turn the corner, though of course the good food-taking, the strychnine, the oxygen, and the most excellent nursing kept her going.

Dulwich, S.E.

DISAPPEARANCE OF A TUMOUR (? SARCOMA) FOLLOWING INJECTIONS OF COLEY'S FLUID.

BY WALLACE C. G. ASHDOWNE, F.R.C.S. ENG.,
SURGEON TO THE METROPOLITAN HOSPITAL, KINGSLAND-ROAD, N.E.

A MARRIED woman, aged 45 years, was admitted to the Metropolitan Hospital on April 23rd, 1908, with a swelling in the right arm, which she had first noticed seven weeks previously, and to which her attention had been drawn by pain and weakness when using it at her occupation.

FIG. 1.

Reproduction of skiagram of right arm on first examination.

On examination a fusiform swelling of regular outline and well defined limits could be felt in connexion with the lower part of the right humerus (Fig. 1). It felt firm throughout

with no suspicion of fluctuation or egg-shell crackling about it, the skin and muscles were not implicated, but the superficial veins were a little prominent and there was an enlarged gland in the right axilla. The arm was wasted and the muscles were weaker than those of the opposite side; the movements of the elbow-joint were unimpaired. Pain was only complained of when using the arm or on applying firm pressure. No other bone abnormality could be made out. There was no history of injury or of fracture, and the question of syphilis was carefully gone into, but no evidence

FIG. 2.

Reproduction of skiagram taken on Feb. 1st, 1909, showing maintenance of improvement.

of it could be obtained. The skiagrams showed marked changes in the structure and outline of the bone, and suggested to most of those who saw them the presence of a new growth.

To exclude the possibility of a syphilitic origin mercury and potassium iodide in increasing doses were given for ten days, but as at the end of that time the swelling had increased both in measurement and as seen by skiagram, that treatment was abandoned, and the patient was advised to submit to an exploratory operation, to be followed if necessary by amputation; this, however, she refused to agree to, and, as an alternative, treatment by Coley's fluid was suggested and adopted.

We began with half-minim doses and increased them by quarter, half, and one minim until a maximum of nine minims was reached; the first injections were given into the arm outside the limits of the growth, but the later ones were injected into it, and 23 injections in all were given. They were followed by pain and swelling at seat of injection, with general malaise and headache, nausea and vomiting, and pains in the limbs and joints followed by the appearance of subcutaneous hæmorrhages resembling bruises, but with only slight rise of temperature and increase of pulse-rate. These after-effects were so unpleasant that we had some difficulty in persuading her to continue the treatment; she, however, submitted to it until August 13th, when the swelling had almost disappeared and the structure and outline of the bone had resumed its normal appearance.

A skiagram taken on Feb. 1st, 1909, shows that the improvement has been maintained.

Devonshire-street, W.

A NOTE ON NORMAL MENSTRUATION WITH ABSENCE OF THE BODY OF THE UTERUS.

BY ALEXANDER BROWN, M.B. LOND., M.R.C.S. ENG.

THE patient, who had been married for nearly three years, consulted me on account of sterility. She was most desirous of having a child. Bred in the country and of fine physique she had been perfectly regular in her periods from the age of 13 years. She was now 28 years old, about the same age as her husband, who was tall but not so strong-looking as herself. The periods lasted for four or five days and an experienced nurse testified to the normal loss. This nurse, who had known the patient from infancy, informed me that although she knew her to be an affectionate wife and very fond of children she was sexually cold and during childhood had pursued the sports of boys and had formed no girl acquaintanceships.

I examined the patient in bed, and bimanually could find no uterus and I failed to introduce a sound. On withdrawing my finger there was a little blood; the vaginal cervix appeared to be of normal size and shape but was congested, and the blood evidently came from the external os. I advised a full examination under an anæsthetic. Accordingly a few days later I placed the patient under ether, and my friend Dr. A. Alexander conducted the examination, the result of which I afterwards confirmed. He found complete absence of the body of the uterus. On bimanual examination the state of the pelvic contents was striking; the examining finger and the outside hand clearly approximated with the vaginal cervix alone between them. There was absolutely nothing to be felt within the pelvis to represent the body of the uterus.

I am aware that a post-mortem examination could alone disclose the exact representation of the parts and that developmentally a uterus might then be demonstrated, but the case appears to be of considerable interest in that so gross a deficiency existed with normal monthly periods. No doubt the vaginal cervix supplied the monthly loss.

Bartholomew-road, N.W.

A FUTILE INQUEST.—An inquest reported in the *Western Gazette* of May 7th affords another proof that the coroner's law is in urgent need of reform. The jury were directed to inquire into the death of a woman, aged 28 years, who had died suddenly with symptoms of severe abdominal pain before the medical man who was summoned could reach the house at Thornford where she resided as housekeeper. No poisonous substance was found in the room. The witnesses who spoke as to the nature of the symptoms were unskilled, and no medical evidence was called nor was any necropsy made. The jury told the coroner that "Deceased appeared to have died from natural causes," and the coroner replied that "he had entered the statement that deceased was suddenly taken ill and suffered from severe pains, probably due to indigestion, which caused acute gastritis, and that she died in a natural way and not in an unlawful way." This elicited a protest from the foreman to the effect that "the jury said 'appeared' to have died," to which the coroner replied that "it was the same thing." Accepting the report as correct, the jury appears to us to have had a much sounder view of the nature of the evidence than the coroner. However the woman died, the coroner has taken a heavy responsibility in neglecting to prove his supposition as to the cause of her death in the only possible way—i.e., by ordering a post-mortem examination to be made. In the absence of any medical evidence the jury in effect very properly refused to bring in a verdict, and we trust it will afford a salutary lesson to the coroner in question on the futility of guess-work inquests.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on May 14th, Sir THOMAS BARLOW being in the chair.

Dr. FREDERICK SPICER showed a case of Paralysis of the Right Spinal Accessory Nerve. The patient was a man, aged 32 years, living in the Midlands, who had always enjoyed good health until the middle of January last, when he complained of sore-throat, weakness of voice, and pains on the right side of the head, right shoulder, and right arm. He was treated by his medical attendant until March 4th, but as he did not improve he was sent to London and was there found to have paralysis of the right vocal cord, the right side of the soft palate, the right sterno-mastoid, and the right trapezius. There was very considerable wasting of the muscles, with marked drooping of the right shoulder. He had had influenza some four months previously; there was no history of syphilis or injury.

Mr. WALTER G. SPENCER showed a case after reduction of an old Subcoracoid Dislocation of the Right Shoulder, complicated by fracture of the upper third of the humerus, by excavating the glenoid cavity through a posterior intermuscular incision. The patient was a man, aged 43 years, who was riding a motor cycle when a collision occurred; he was thrown violently and received severe injuries—viz., fracture of the base of the skull with concussion, fractured ribs, dislocation of the head of the right humerus, oblique fracture of the upper third of the shaft of the right humerus, and widespread ecchymoses about the right shoulder. While he was recovering from his head injuries the fracture of the humerus slowly united, with overlapping of the fragments to the extent of about two inches. As soon as he could he began to make every effort to move his shoulders and to use his arm, but after six months he had not made any progress; indeed, he thought that his arm was becoming more fixed to his side. The humerus was fixed to the scapula, which could be moved very little, and the oblique union of the humerus was not firm. Since the operation his arm could now be raised to the vertical without moving the scapula much more than normal. He could swing on a horizontal bar and use a 4 pounds dumb-bell. He had returned to work and each week had shown increasing ability to carry out overhand movements.

Dr. N. S. FINZI showed a case of Inoperable Recurrent Scirrhus of the Breast under Treatment by Radium. The patient, a woman, aged 78 years, noticed about eight years ago that the breast felt hard. About three years ago she had some pain and consulted her medical attendant, who removed the breast in April, 1906. About 12 months ago she noticed some hard lumps under the skin, and when seen at the Metropolitan Hospital by Mr. Peter L. Daniel in November, 1908, she had several masses of about the size of walnuts firmly bound down in the centre of the scar and the axilla, and a couple of nodules under the skin at the lower end of the scar. Under x ray treatment (four full doses to different parts of the scar) great improvement resulted and the subcutaneous nodules disappeared. The patient, however, did not attend for some weeks and the growth again became rapid and much larger than in November. She had two more doses of x rays on Feb. 24th and 28th of this year. From March 10th 5 centigrammes of radium, filtered through a silver tube 0·6 millimetre thickness and 1 millimetre thickness of india-rubber, were applied over the large mass for 53 hours, the position of the tube being altered once. On March 12th a dose of 41 hours was commenced in the axilla. The radium used was the pure bromide and was contained in a little glass tube within the silver tube. A considerable dermatitis developed in the two places, commencing almost at once and reaching a maximum in about three weeks. The area of this, however, was quite small and could be excised if required. By April 2nd the tumour had almost disappeared except for a little thickening between the two places where the application had been made. That proved to be a definite nodule, and a dose of 26 hours with filters of 0·6 millimetre silver and 1 millimetre lead, and six hours with 0·6 millimetre silver was given, starting on April 29th.

Dr. FINZI also showed a case of Epithelioma of the Lower Lip under Treatment by Radium. The patient, a man, was admitted to the Metropolitan Hospital in March last with a growth on the lower lip 4·5 by 2·5 centimetres in size. This had started as a pimple, which gradually became larger and became crusted over, and had been growing for 15 or 16 years. The rapidity of the growth had considerably increased for the last eight or ten months. There were enlarged glands under the jaw on both sides, but larger on the left than the right. Five centigrammes of radium bromide filtered through 0·6 millimetre silver were applied to the growth for 15 hours from March 1st, and the same quantity filtered through 0·5 millimetres of silver and four layers of lint for 28 hours from April 1st to the glands on the left side of the neck. Epilation was noticed on the neck about April 29th and on the left side of the upper lip on May 5th. Considerable improvement resulted both in the growth and the glands. Commencing on May 4th, another application of 22 hours was given to the lip, the filter this time being 0·6 millimetre silver and 0·5 millimetre lead and two layers of lint.—Mr. RICKMAN J. GODLEE observed that in Paris radium was applied, not only by means of a small portion of the substance in a capsule, but also by spreading the radium into pads of different shapes and sizes.—Mr. W. G. SPENCER mentioned a case of epithelioma of the tongue under treatment by radium at Paris for two months, with the result that the disease had spread to the glands of the neck.—Mr. C. GORDON WATSON said that the latter of the two cases shown by Dr. Finzi was admitted under his (Mr. Watson's) care for treatment. The glands in the neck after the application of radium had not increased in size. Replying to Mr. A. E. J. BARKER, Mr. Watson said that the growth was better in regard to surface and bulk and less in length and breadth.—Dr. A. HOWARD PIRIE said that it was necessary to apply the radium in a capsule because it was apt to lose its power when spread out on a pad.—Mr. A. PEARCE GOULD pointed out the inadvisability of discussing any case still under treatment. He thought that there was but little evidence of actual healing over the growth.—Mr. E. H. SHAW said that microscopic examination did not show evidence of any actual healing at the edge of the growth. The radium treatment seemed to have assimilated the surrounding tissues in trying to overcome the growth.—Dr. FINZI said that in Paris nævi were treated with radium on pads. In Paris it was claimed that radium treatment was for precancerous conditions. As soon as the growth had infiltrated the tongue muscles it was past treatment.

Dr. FINZI showed a case of Arthritis successfully Treated by Iodine-lithium Ionisation.

Dr. ALEXANDER FLEMING demonstrated a simple method of Serum Diagnosis of Syphilis by the "Complement Deviation" Method. This differed from Wassermann's original method in the following respects: (1) an alcoholic extract of normal heart muscle was used instead of a saline extract of syphilitic liver; (2) the natural hæmolytic power of human serum for sheep's corpuscles was made use of, thus doing away with the necessity for the hæmolytic serum of a rabbit immunised against sheep's corpuscles and the guinea-pig's serum (complement); and (3) the amount of blood which could be collected in an ordinary blood capsule furnished an ample supply of serum for the test.

Mr. V. WARREN LOW showed a case of Pneumococcal Cystitis and Arthritis in a man successfully treated by a vaccine prepared from the patient's own organism. The conduct of the case by vaccine therapy was controlled by the estimation of the opsonic index.

Mr. SIDNEY A. BOYD exhibited a case showing Sprengel's Deformity of the Shoulder and Hirschsprung's Disease, with definite rectal obstruction.

Dr. F. PARKES WEBER showed a woman three years after treatment by omentopexy and peritoneal drainage for Chronic Ascites connected with Hepatic Cirrhosis. The patient, aged 42 years, was admitted to the German Hospital on account of ascites in October, 1905. On Dec. 1st omentopexy was performed by Mr. E. Michels according to the method recommended by A. Narath[1] (a colleague

[1] Centralblatt für Chirurgie, Leipzig, 1905, vol. xxii., p. 433.

of Talma at Utrecht). Under local anæsthesia some of the great omentum was stitched into a pocket made between the fascia and the subcutaneous fat on the left side of the incision. At the operation Mr. Michels could feel the surface of the liver hard and uneven. Subsequent operations were carried out. Now the woman looked and felt well and could walk long distances without fatigue. There was no ascites or œdema. From the point of view of omentopexy, cases of hepatic cirrhosis might perhaps be roughly divided into two groups: 1. Patients who for some reason (for instance, the presence of old perihepatitis and perisplenitis and extensive spontaneous omental adhesions) had the collateral venous circulation well developed, and did not readily develop ascites, but were especially liable to hæmatemesis from dilated œsophageal or gastric veins. The liver was generally decidedly enlarged in that group of cases. 2. Patients with a poor collateral venous circulation, who developed ascites early. The main object of omentopexy and peritoneal drainage should be to convert patients of Group 2 (for example, this patient at the onset of the ascites) into patients of Group 1.

Dr. F. DE HAVILLAND HALL and Mr. SPENCER showed a case of Splenectomy (for Splenic Anæmia?). The patient was a girl, aged eight and a half years, who had gradually become anæmic and drowsy, with puffiness of the face. Except for pneumonia at the age of three years she had not had any illness. On admission the spleen and liver were enlarged. She was in a medical ward from Jan. 21st, 1909, and during her stay there was some increase in the size of the spleen and liver and an increase in weight. The blood showed leucopenia. Before operation the spleen was enlarged forwards to the umbilicus and downwards to the crest of the ilium, and the margin of the liver came two inches below the ribs. At the operation the spleen was found to be very friable and the splenic vessels were very large and there were close adhesions to the transverse colon and stomach. After the operation some broken-down blood, infected from the bowel, came away by the drainage-tube; this accounted for the leucocytosis. At the present time the liver margin did not come below the ribs; the patient had a good appetite, and there was nothing noticeable except some anæmia. The spleen weighed 2¾ pounds; microscopic examination by Dr. J. H. Hebb did not show anything abnormal except engorgement of the vessels by blood.

Mr. E. ARCHIBALD SMITH showed a case of Hernia of the Tibialis Anticus Muscle in a man aged 40 years. As in most cases of hernia of muscle, the rent in the deep fascia was due to irregular or sudden contraction of the subjacent muscle and not to direct injury. Muscle hernia of any sort was rare and was in most cases seen in the adductor muscles of the thigh or the biceps of the arm. The situation of the hernia in this case—over the tibialis anticus—would appear to be unique.

Dr. T. STACEY WILSON exhibited Three Coloured Projection Drawings of the Brain, showing the relations which the internal structures would be seen to have to the convolutions if the brain were transparent.

Dr. F. J. POYNTON and Mr. W. TROTTER showed a case after the successful operation of Cardiolysis. The operation and the illustrative case are fully described in a paper by Dr. Poynton and Mr. Trotter to be published in an early issue of THE LANCET.

MEDICAL SOCIETY OF LONDON.

Annual Oration and Conversazione.

A MEETING of this society was held on May 17th, Mr. C. B. LOCKWOOD, the President, being in the chair.

The annual oration was delivered by Dr. H. D. ROLLESTON, who took as his subject the Classification and Nomenclature of Diseases, with Remarks on Diseases due to Treatment; this oration will be found printed on p. 1437 of this issue of THE LANCET.

The conversazione was attended by many members and guests who were received by the President. The satisfactory nature of the report of the council of the society was a matter of general congratulation to those present. The sound condition of the society from a financial point of view was clearly brought out in the report of the house and finance committee for the session 1908–09, and it was interesting to note the increasing use made of the library, as evidenced by the report of the library committee; last year the number of Fellows using the library was double that of the number in the year 1904. The continued success of the society was shown by the fact that the attendance at the ordinary meetings was above the average of previous years, and the popularity of the "clinical" evenings and those devoted to discussions was evidenced by the crowded attendances of Fellows and visitors. The President for the session commencing October, 1909, is Dr. Samuel West.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Cæsarean Hysterectomy.—Traumatic Prolapse of Intestine.—Exhibition of Specimens and Cases.

A MEETING of this society was held on May 7th, Dr. W. H. CHEETHAM being in the chair.

Dr. J. B. HELLIER read a paper on two cases in which Cæsarean Hysterectomy was performed for Myoma Uteri Complicating Pregnancy. In Case 1 a woman, aged 35 years, I-para, had a myoma which obstructed the cervix. This had been watched throughout the pregnancy, but at term it was clear that the head could not enter the pelvis and there were other nodules in the fundus. On Jan. 22nd, 1909, a vigorous male child was removed by hysterotomy and supravaginal amputation of the uterus followed, one ovary being left. The mother made an excellent recovery and suckled her own child. In Case 2, a woman, aged 31 years, I-para, had about 20 myomatous nodules in the uterus, with obstruction of the cervix. She was operated on in January, 1909, in almost exactly the same way as in the previous case. She made an excellent recovery. The child was a girl, weighing 5½ pounds. The mother was not able to suckle the child but she has been reared after some difficulty. Dr. Hellier discussed the whole subject of pregnancy and myoma. He thought that most cases of this nature did not require operation before delivery, but that when the parturient canal was seriously obstructed operation was indicated in the interests of both mother and child. He dwelt on the great success attending Cæsarean section under the best modern conditions.

Dr. J. BASIL HALL read notes of a case of Perforation of the Abdomen with Prolapse of the Intestine, the result of a motor accident. The patient was a man, aged 27 years, who was struck in the abdomen by the end of one of the shafts of a trap which collided with a motor-car in which he was riding, and collapsed on the floor of the car. Nearly an hour after the accident he was found lying in the road with well-marked signs of shock. Several coils of small intestine were inside his trousers and a large ragged wound was found in the abdominal wall through which this gut had escaped. The viscera were partly replaced and covered over and the patient was conveyed to his home about a mile away. Two hours after the accident ether was given. The condition at this time was as follows. The patient had rallied somewhat, but was restless and asking for the windows to be opened. On the left side of the abdomen, extending from Poupart's ligament up to a point two inches above the level of the anterior superior spine, was a broad ecchymosed excoriation, scored with transverse cracks and fissures of the skin. The skin was separated from the underlying muscles over a greater part of the left side of the abdomen, having been evidently subjected to a violent dragging force in an upward direction. At a point on a level with the umbilicus was a large tri-radiate wound in the skin, about four inches in diameter, through which some intestine was prolapsed. The skin all round this wound was separated from the musculature beneath it so that a large subcutaneous pocket was formed, extending as low as the groin, and in this were several coils of intestine. These had evidently been pushed into this pocket after the accident. The wound in the muscles through which the viscera had escaped presented the following characters. The aponeurosis of the external oblique was cleanly split in the direction of its fibres for several inches. The left rectus was ruptured transversely. The internal oblique showed a ragged, roughly circular hole nearly three inches in diameter. This muscle tightly gripped the prolapsed

viscera, and by so doing controlled hæmorrhage and saved the patient from bleeding to death. On examination the intestines were found to be intact; but in one loop the mesentery was cleanly split throughout its entire breadth from its root to the intestinal margin. This slit was as cleanly cut as if it had been done with a sharp knife. On releasing this loop from the muscular grasp of the aperture in the internal oblique, furious bleeding commenced from some large mesenteric vessels which was not easily controlled. There was a considerable retroperitoneal hæmatoma below the left kidney; the peritoneum was torn and the left kidney was lifted forwards out of its bed. The descending colon was also lifted for a few inches from the posterior abdominal wall and the quadratus lumborum was exposed. The viscera were carefully washed with saline solution and replaced, the various rents were sutured, posterior drainage was established, and the abdominal wall repaired. There was great shock following the operation, with extreme restlessness, the patient being clamorous for the windows to be opened. He rallied towards morning and in 48 hours seemed little the worse. Beyond some slight tympanites he had no bad symptom. He got up at the end of a month and a few days later went for a motor drive! The scars had remained sound and there was no ventral hernia. The difficulties of the case were added to by the fact that the operation was undertaken in an old country house on a makeshift table. The only light was a small gas-bracket close to the window. A nurse was sent for, but could not arrive until the operation was almost completed.

Dr. A. G. BARRS showed the parts from a Stenosing Pyloric Ulcer, which had perforated, causing subdiaphragmatic abscess and empyema. Gastro-enterostomy relieved symptoms until stenosis, as the result of simple ulceration of the cardiac end of the œsophagus, developed. This was relieved for a time by jejunostomy.

Dr. G. W. WATSON showed a specimen of Multiple False Diverticula of the Sigmoid Flexure from an old patient. Many of the diverticula contained concretions.

Dr. R. A. VEALE showed the Brain from a Case of Chronic Frontal Abscess. There had been a septic wound in the forehead five months previously.

Mr. MICHAEL A. TEALE showed a woman, aged 19 years, who found three days previously that her left pupil was widely dilated and her left eye almost blind. No cause was known. On examination the sight of this eye was found to be reduced to vague central vision of large objects, peripheral vision being lost. The pupil was widely dilated and fixed, there being no reaction to light or convergence. No abnormality of the fundus was discoverable by the ophthalmoscope. Slight photophobia was present but no pain. Cross-examination failed to show that a mydriatic had been used either intentionally or accidentally.

Cases and specimens were shown by Mr. H. LITTLEWOOD, Mr. H. J. ROPER, Mr. WALTER THOMPSON, Dr. W. H. MAXWELL TELLING, and Dr. HELLIER.

EDINBURGH OBSTETRICAL SOCIETY.

Difficulties in Ovariotomy.—Scopolamine-Morphine Narcosis during Labour.

A MEETING of this society was held on May 12th, Professor WILLIAM STEPHENSON (Aberdeen), the President, being in the chair.

Dr. J. M. MUNRO KERR (Glasgow) read a paper on the Complications and Difficulties in a Series of 250 Ovariotomies. He first of all drew attention to the mortality, which was 4·4 per cent. compared with 2 per cent. in his series of 150 hysterectomies for fibroid tumours of the uterus. In this connexion he referred to the greater difficulties and danger associated with ovariotomy compared with hysterectomy and mentioned the reasons why this was so. Dr. Kerr then referred to the cases where there had been intestinal adhesions, 55 in all. In three of these the bowel was opened into and in one a portion of gut one and a half feet in length had to be resected. He described in some detail this case, which had an uninterrupted recovery. He then considered the dangers which followed injury to the rectum and pointed out how serious a complication this was. He subsequently referred to two cases of abscess of the ovary, both of which had developed after a parturition some months previously. The patients were very seriously ill when operated upon and both died. Streptococci were the organisms found in both cases. Dr. Kerr then considered such complications as rupture of the tumour (three cases); torsion of the pedicle (14 cases); ovariotomy in the aged (three cases, one 81 years of age); and fibromyomata associated with large ovarian tumours (10 cases). The difficulties in dealing with broad ligament cysts were then considered. In malignant tumours of the ovaries the removal of the uterus with the tumours was advocated. Cases in which appendectomy and cholecystectomy were also performed were briefly detailed. Finally, Dr. Kerr referred to details in technique. He mentioned the methods he employed for sterilising the hands, the importance of rubber gloves, stitching of the abdominal wound, drainage, and the preparation of catgut. In regard to the after-treatment he mentioned the beneficial results of washing out the stomach when vomiting was persistent and the good effects which follow continuous saline rectal infusion.—Sir J. HALLIDAY CROOM remarked that the paper covered the whole question of abdominal surgery, and he believed that gynæcological surgery would become merged into a special branch, that of the abdominal surgeon. He agreed with many points mentioned in the paper. Old patients often bore operations better than the young. He had found gloves a very great advantage, though they interfered with the touch, and the operation could not be done so well on that account, but he believed they gave a 10 per cent. advantage to the patient. Injuries to the bowel were dangerous.—Dr. F. W. N. HAULTAIN had found ovariotomy much more dangerous than hysterectomy, statistics showing a mortality of a half more. The principal dangers were adhesions to the bowel and splitting of the mesentery. He had lost two patients from gangrene of the bowel. It was much better in these cases to resect a portion of the bowel as the risks were not much increased, the only consideration being the increased length of the operation. His operative methods differed in some points from those of Dr. Munro Kerr. He always used gloves and therefore did not consider it necessary to carry out an elaborate disinfection of the hands. He did not use catgut or silk, but linen thread, that used for sewing boots, finding it stronger, the strands thinner, and cheaper than silk. He never used swabs, only sponges; it was possible to render sponges aseptic; there was less risk of injury to the peritoneum than with swabs, and they absorbed several times as much fluid. He never drained in any circumstances for any condition, using lavage if required. The whole point in abdominal surgery was to avoid sepsis. He did not agree with the opinion that gynæcological surgery would become part of the practice of a special abdominal surgeon in the future. He would consider it a retrograde movement if relegated to a general surgeon, as knowledge and experience gained in obstetrics were necessary for gynæcological surgery. But the gynæcologist should be competent to deal with any surgical condition arising in an operation, such as resection of the bowel, &c.—Dr. A. H. F. BARBOUR, Dr. J. W. BALLANTYNE, and Dr. W. FORDYCE also discussed the paper, and Dr. MUNRO KERR replied.

Sir J. HALLIDAY CROOM read a paper on his Experience of Scopolamine-Morphine Narcosis during Labour. He gave the results of its action on 63 cases in private and in hospital. He had begun with doses of 1-400th grain of scopolamine and 1-6th grain of morphine, but these had little effect and were unsatisfactory. So also with double the dose of scopolamine. He believed the best dose was 1-100th grain of scopolamine and 1-6th grain of morphine. He usually administered it towards the end of the first stage of labour when the pains were coming regularly every few minutes. Occasionally a second dose of scopolamine of 1-200th grain was necessary, but he found it advisable not to repeat the morphine. With these doses the pain of the uterine contractions was markedly diminished and in some cases abolished altogether, and the patients slept soundly in the intervals between the pains and after the completion of labour. Further, the memory of the pains was in most cases strikingly blurred, and many of the patients awoke with no recollection whatever of their labours. He had found no ill effects from the drugs upon the mother except a little tendency to post-partum hæmorrhage, but occasionally the children were born sleepy and required to be revived. In no case was the child's condition serious and none were stillborn. He believed that the treatment was most suited for nervous primiparæ,

and particularly in private practice. He emphasised the necessity of using the drug in a freshly prepared form. —Dr. HAULTAIN had used 1-200th of a grain of scopolamine with 1-6th of a grain of morphine during the first stage, when patients were often too ready to cry out for relief. Its effect lasted about from five to seven hours, and it had the advantage that during the second stage, if the pains were very severe, then a very small quantity of chloroform was required to relieve them. On several occasions he found the effects pass off and that when the second stage came on the patient exaggerated the suffering. In several cases the condition of the child gave very great anxiety when the dose mentioned above had been given, and he found it difficult to resuscitate the infant. If the child was born within two hours no results were evident, or after five hours when the effects had passed off, but it was between these times that he had met untoward results. He considered the drug of the very greatest value in helping suffering women.—Dr. ELSIE M. INGLIS had experience of its use in 43 cases, giving it in doses of 1-100th grain of scopolamine and 1-4th grain of morphine, repeated if necessary in three hours. It was useful in cases with a very prolonged first stage; these mostly ended with chloroform administration in the second stage, and she had also found that much less was then required. She had noticed rapid dilatation of the os under its influence. —Dr. J. HAIG FERGUSON had found it inconstant in its action, or this might have been due to idiosyncrasy of the patient. He used 1-100th grain of scopolamine and 1-6th grain of morphine, repeating the same dose of scopolamine if necessary without the morphine. As the patient was not so conscious of the pains then, these cases required more careful attendance of the medical man. One patient had expressed herself to the effect that she had some feeling of pain but in a far-away manner, as if the pains were in the other side of the room. He had found as much thirst from large as from smaller doses. It was useful in cardiac cases and where one had to hasten labour.—Sir HALLIDAY CROOM replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Physical Deterioration.—The General Anæsthetics Bill.

A MEETING of this section was held on April 30th, Dr. W. R. DAWSON, the President, being in the chair.

Mr. J. B. STORY read a paper on Physical Deterioration. He said that there were no means of ascertaining with perfect certainty whether the population was physically degenerating or not. No statistics were available in the United Kingdom on this point. But it was known that urbanisation was increasing, and plenty of evidence existed to show that this tended to physical degeneracy. In support of this German statistics were quoted. Attention was called to the reports of three Parliamentary Commissions—(1) Interdepartmental on Physical Degeneration; (2) a Royal Commission, Physical Training, Scotland (1903); and (3) the recent Poor-law Commission. The first recommended a permanent anthropometric survey of all children and young persons, methodical physical instruction in all schools, and compulsory drill and physical exercises for all growing lads; the second made almost identical recommendations; and the third, in a majority report, stated that the most effective and thorough method of infusing into boys approaching adolescence a sense of discipline and self-restraint, both physical and moral, and of improving their physique for subsequent industrial occupations, would be a universal system of a short period of military training. Mr. Story commented upon the utter lack of any systematic physical education in Irish schools and made the following recommendations which were afterwards adopted by the meeting:—1. That a permanent anthropometric survey should be made of children and young persons. 2. That physical drill should be compulsory, in conjunction with a proper system of medical inspection, in all schools, primary and secondary. 3. That all boys between the ages of 14 and 18 who were physically fit should be compelled to belong to boys' brigades or cadet corps or to attend classes where physical drill of a military character was conducted. 4. That all youths at the age of 18 years (rich and poor) who were physically fit should be compelled to undergo a period of military training.—Dr. N. MCI. FALKINER spoke from personal experience of the value attaching to boy scouting. Apart from the question of a territorial army military training would be in every way an advantage.—Professor E. J. MCWEENEY said he became convinced of the great utility of compulsory military training when living in Germany. The lack of coördination was very marked in this country and far too many of the children of the poorer classes were allowed to wander about the streets to acquire an anti-social character of mind and to feel themselves as outside the scheme of things. The German system impressed him with the feeling of solidarity.—Surgeon-General BOURKE spoke of his experience of military training. There was a great difference between squads that had only a few days' service and those that had longer periods. He could assure them that even three months made a decided improvement, and the Swedish system had been found to be of great advantage.—Dr. R. B. M'VITTIE thought that the teeth were, perhaps, the most important indication of degeneration. He could not see how a man was going to stand hard work if he had not good opposing molars. It had been shown that 86 per cent. of the children in schools in Great Britain had very bad teeth, and he thought the figure showed that the race was degenerating at a rapid pace. If there was to be more prolonged physical drill it should be under the control of the medical profession.—Mr. M. J. NOLAN spoke of the good results of the Swedish system in his asylum in Downpatrick.—The PRESIDENT said he had been converted to the doctrine of compulsory military service by a residence in Germany. The great advantage of early training was that it got a boy at the stage when he combined the self-indulgence of the child with some of the force of a man. It was a critical stage, and drill would be the salvation of the young men of the country.—Mr. STORY replied.

Dr. T. P. C. KIRKPATRICK read a paper dealing with the General Anæsthetics Bill now before Parliament, in the course of which he opposed the proposed exclusion of dentists from the ranks of the anæsthetists. In his opinion the course of instruction laid down for dental students of the Royal College of Surgeons in Ireland was quite sufficient to permit the dentists of the future to be entrusted, with perfect safety to the public, with the important duty of administering anæsthetics.—Dr. J. CRAIG said that Dr. Kirkpatrick stood almost alone in his defence of the dentists who were not also registered medical practitioners.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 7th, Dr. J. Walker Downie, the President, being in the chair.—Dr. W. R. Jack read notes of a case of Tuberculosis of the Bladder treated by Vaccine Therapy. The patient was a young woman, aged 32 years, a teacher by occupation. She had suffered from frequency of micturition with scalding pain for four years. The attacks came on acutely and passed off after varying intervals. In May, 1908, the urine was acid, of specific gravity 1020, and contained albumin and pus. Tubercle bacilli were readily detected in the sediment. On cystoscopic examination tuberculous ulceration was found in the trigone of the bladder and in the neighbourhood of both ureters. Dr. J. H. Nicoll removed the right kidney, the pelvis of which was found to contain a uric acid calculus coated with phosphates. Scattered tubercles were found through the cortex. The right ureter was swollen and gelatinous. Convalescence was uninterrupted. The attacks of pain recurred and in January, 1909, cystoscopic examination proved the ureteral orifices to be normal, but adjacent to the right orifice were one or two small white tubercles and two flat yellowish ulcerated surfaces, with rounded margins and evidently tuberculous. The patient's index to the tubercle bacillus was 0·68. On Jan. 22nd 0·0006 milligramme of Koch's bacillary emulsion was injected. A few hours of meatal and hypogastric pain followed. The index fell to 0·60, but rose steadily to 0·88 on the 24th and 1·08 on the 28th, and 1·10 on the 31st. The frequency of micturition greatly diminished and pain disappeared. On Feb. 2nd 0·0001 milligramme was injected. The index did not rise beyond 1·06. After the injection of 0·00012 on Feb. 14th the index fell to 0·81 and rose to 1·34. Some

injections of a vaccine grown from a pure culture of bacillus coli found in the pus were also given and effected a marked diminution in the quantity of pus. Examination at this stage failed to discover tubercle bacilli in the urine and the symptoms steadily improved.—The President read notes of a case of Epithelioma of the Naso-pharynx treated by Radium. The symptoms were severe frontal headache and inability to breathe through the nose. Both nares were found filled with pus. The naso-pharynx was almost completely filled with a new growth, a piece of which was removed and was found to be a cellular epithelioma. Operation was refused and radium was tried. A small quantity of bromide of radium was passed into the naso-pharynx through the inferior meatus. It was at first left in for 15 minutes, but later was left in for an hour each day. After a week the patient could draw air through the nose and the headache was less severe. After six weeks of this treatment the tumour had entirely disappeared. He returned again, however, with symptoms of intracranial tumour, from which he died.—The President also reported three cases of Primary Epithelioma of the Uvula. Each tumour was removed with scissors, cutting away a considerable piece of the soft palate round the tumour. One case died ten years after from a malignant tumour in the right posterior triangle of the neck. There was no recurrence in the throat. The second case returned four years after with a scirrhous cancer of the left tonsil, with involvement of the cervical glands, which with the tonsil were removed.—Dr. A. A. Gray showed stereograms illustrating Normal and Pathological Conditions in the Middle and Inner Ear.—Dr. J. Wyllie Nicol showed a New Form of Test-tube. The open end was inclined at an angle of about 45° to the length of the tube for the purpose of facilitating dropping in fluids, as strong nitric acid, from a bottle.

Reviews and Notices of Books.

Mendel's Principles of Heredity. By W. BATESON, M.A., F.R.S., Professor of Biology in the University of Cambridge. Cambridge: At the University Press. 1909. Pp. 396. Price 12*s.* net.

Professor Bateson's admirable book puts out in the clearest possible manner the whole story of Mendelism up to the present hour, and we say up to the present *hour* because work upon Mendelian lines, having for its object the making of the study of heredity into an organised branch of physiological science, is now being undertaken by so many capable experimenters in so many different fields of research that it is not necessary for Mendelism to mean the same thing, as far as detail is concerned, for more than an hour together. The principles, however, it must be assumed, will not vary, for if they do all the interesting work that is being done for the development of their application and in accordance with their promise would thus become meaningless or misleading.

Most of us now know the curious story of Gregor Mendel, the Abbot or Prälat of the Königskloster in Brünn, who read in 1865 to a local scientific society two papers upon plant hybridisation, the result of experiments carried on in the gardens of his institution, and there and then founded a school of research which had no scholars for 35 years, but which is now gaining adherents rapidly. Mendel's work was published in the Transactions of the Brünn Scientific Society, and in that form probably reached our Royal Society and Linnean Society, among other learned bodies. It attracted, however, no attention, which, as Professor Bateson shows in his biographical notes upon Mendel, was all the more extraordinary, because the researches and conclusions were germane to controversies and discussions which happened to be at that very time occupying the minds of several naturalists of the first rank. The work of the Prälat of Brünn, however, went unnoticed, to be rediscovered in 1900, some 16 years after his death as an unappreciated and disappointed man. In 1900 three papers appeared within a few weeks of each other giving the substance of Mendel's theory and experiments as displayed in his communications to the Brünn Society, and confirming the conclusions arrived at in certain directions from independent investigations. From that time forward, mainly owing to the enthusiasm of Professor Bateson, labour upon Mendelian lines has been undertaken with steadily increasing frequency, so that the fundamental question which medical men are asking—viz., Is there any practical value in the work to us?—must soon receive a definite answer, because the various scattered investigations will, or will not, group themselves into a scientific exposition of some of the laws of heredity, and success or failure can be tested with an approach to certainty. Many allow that the Mendelians have got so far already that they have placed the study of heredity upon a definite scientific basis as a branch of biology, and Professor Bateson brings forward a large amount of evidence to prove this; but whether he succeeds or no is for the time being of small importance. What is of importance is that these interesting researches should be pursued till a reasonable time has come at which we may ask the Mendelians for light and leading based upon their work. That time has not yet arrived. The work is in its infancy, or to be accurate it has just reached its teens, and it is too early to worry about its character or to take stock of its achievement. It is unwise to assume too much for a youthful prodigy, and unfortunately it is easy to stunt or delay youthful growth by neglect. Let us do neither. We are not called upon to be credulous and we must pray to be delivered from an unreasoning scepticism; the right attitude is surely to resolve to give every chance to the new school of thought.

There is one thing that we are entirely tired of hearing and that is that the pursuit of Mendelian doctrines is a denial of the truth or value of the immortal work of Charles Darwin, and we agree with Professor Bateson's belief that if Mendel's work had come into the hands of Darwin the history of the development of evolutionary philosophy might have been very different, for it is certain that the presence would have been admitted of variations occurring as discontinuous phenomena. Many mighty Darwinian conceptions were so certainly true, so positively explanatory of much that had hitherto been puzzling, and so full of promise in many directions, that almost immediately after their publication special experiments in the science of genetics ceased to take place, or at any rate ceased to be carried on by many men of science. The scientific world agreed to accept in its entirety and without controversy the doctrines of pure selection, so that those who were engaged upon the examination of individual and discontinuous phenomena were made to feel that they were simply wasting their time. It is impossible to conceive an attitude of mind that would have been more positively distasteful to the great Darwin himself than to have all individual experimentation directed towards the support of any theory; but undoubtedly this is what occurred, and because of this comparatively little systematic work has been done in the study of genetics. Mendelism, therefore, when re-discovered in 1900 had a practically clear field, and Professor Bateson's book describes the progress that has been made, and the directions in which future effort is intended. "For a period," he says, "we shall perhaps do well to direct our search more especially to the immediate problems of genetic physiology, the laws of heredity, the nature of variation, the significance of sex and other manifestations of dimorphism, willing to postpone the application of the results to wider problems as a task more suited to a maturer stage. When the magnitude and definiteness of the advances already made in genetics come to be more generally known,

it is to be anticipated that workers in various departments of biology will realise that here at last is common ground. As we now know, the conceptions on which both the systematists and the speculative biologists have based their methods need complete revision in the light of the new facts, and till the possibilities of genetic research are more fully explored the task of reconstruction can hardly be begun. In that work of exploration all classes of naturalists will alike find interest. The methods are definite and exact, so we need not fear the alienation of those systematists to whom all theoretical inquiry is repulsive. They are also wide in their scope, and those who would turn from the details of classification as offering matter too trivial for their attention may engage in genetic inquiries with great confidence that every fragment of solid evidence thus discovered will quickly take its place in the development of a coördinated structure."

There is room, therefore, for many labourers in the vineyard. The descriptions given by Professor Bateson of the experimental work done by himself and Mr. R. C. Punnett with fowls, by Miss E. R. Saunders with certain flowers, by Miss F. M. Durham with canaries and mice, by Mr. L. W. Newman with moths, by Mr. C. C. Hurst, and many others, display the wide range over which observations are now being made, and furnish clear and interesting reading for those who have mastered, with the assistance of the first two chapters, the kind of way in which the Mendelian regards the origin of species. One section in Professor Bateson's book will certainly be read by medical men with close attention—i.e., the chapter upon the connexion between heredity and sex. In this chapter there are set out the reasons for believing that sex may be found to be a result of gametic differentiation. The evidence from breeding experiments and the part which sex plays in determining or limiting the descent of certain characters in heredity are considered, the thesis being that the facts as to the limitations which sex introduces into the descent of a varietal character are consistent with the possibility that sex itself is a Mendelian character. Now some Mendelian characters can be bred for with certainty, so that the next inference should be that the predetermination of sex can be arrived at. Professor Bateson wastes no time in dealing with the numberless theories which have been put forward to explain the causation of sex, nor does he dwell upon the enormous importance to the world that the possibility of deciding the sex of the offspring would be. He narrates the work done by the Mendelians, and in a brief summary dwells on the need of extended investigations.

We have read this book with the greatest possible interest and recommend it to all our readers.

The Causation of Sex: A New Theory of Sex based on Clinical Materials, together with Chapters on the Forecasting of the Sex of the Unborn Child, and on the Determination or Production of Sex at Will. By E. RUMLEY DAWSON, L.R.C.P. Lond., M.R.C.S. Eng. With 21 illustrations. London: H. K. Lewis. 1909. Pp. 196. Price 6*s.* net.

THE problems concerned with the causation of sex have been a theme of intense interest to medical writers from the earliest times, and the hypotheses which have been put forward by different authors are so numerous that it would be a matter of difficulty to enumerate them all—a task which we have no intention of essaying. Unfortunately, in many instances the attempts which have been made to solve the complex problems concerned have too often been carried out with an absence of that scientific precision which is essential if we are to arrive at the truth of this matter. It is futile to suppose that we shall ever make any progress in this inquiry except by the patient accumulation of data of proved scientific accuracy, but as a rule it has been attempted to make the facts ascertained fit in with some preconceived hypothesis.

An example of this kind is to be found in a new work on the causation of sex, by Mr. E. Rumley Dawson. In this book the author, with honest simplicity, entirely ignores and rejects the work that has been done upon animals other than man; denies that one spermatozoon alone can be concerned in fertilisation; throws aside as useless to his thesis all the researches that have been carried out with regard to the division of the chromosomes; and asserts that it is illogical to assume "that a chance single spermatozoon besides fertilising the ovum nucleus" can have anything to do with determining the sex of the child or the transmission of hereditary qualities. His theory is this: that the male parent has no influence in the causation of sex, and that male ova are restricted to, and come only from, the right ovary and female ova only from the left ovary. In support of this view, which, apart from the denial of any paternal influence, is only a resuscitation of one of much antiquity, the author has collected every conceivable fact, authenticated or unauthenticated, which can lend any support to his hypothesis. The objections are ignored or denied, and the explanation of such difficulties as the presence of both sexes in birds with one ovary is got rid of by the ingenuous explanation that what applies to fowls cannot apply to man. According to the author the right ovary is larger than the left, and therefore more boys are born than girls. Mr. Dawson further maintains that the action of the ovaries is an alternate one, and he believes that the right ovary ovulates one month and the left ovary the next month. Following on the view of the alternate ovulation of the ovaries, the author maintains that he can forecast the sex of the coming child. The researches of J. H. Teacher and T. H. Bryce upon early human ova and their proof that ovulation must occur at different periods of time during the month are left conveniently out of account.

It is sometimes mortifying to read the comments of scientific writers upon the value of so-called medical evidence, but when we read a work of this description we feel that they have some cause for their complaints. We could wish that Mr. Dawson had devoted some of the energy and time which he has expended on the production of this book to attaining an elementary knowledge of the laws of scientific evidence. What is wanted is, not theories based on insufficient data, but the patient, unwearying accumulation of large numbers of proved facts. When we have these as a basis on which to build, then, and then only, shall we be in a position to attempt to solve this absorbing problem.

Recent Advances in Organic Chemistry. By A. W. STEWART, D.Sc. With an Introduction by J. NORMAN COLLIE, LL.D., F.R.S. London: Longmans, Green, and Co. 1908. Pp. 296. Price 7*s.* 6*d.* net.

IT is a pleasure to take up a text-book on organic chemistry which is not written in the wilfully orthodox method that presents at its best a mere collection of facts of which, as Professor Norman Collie says, often neither the explanation is vouchsafed nor the connexion with one another traced. Such a method is mainly responsible for having reduced organic chemistry in the minds of many to "a vast rubbish heap of puzzling and bewildering compounds. ..... The game of permutations and combinations goes on, the chief object apparently being merely to supplement the already existing myriads of laboratory-made organic compounds." The criticism is a just one when applied to even standard text-books, and the result is that the reader's memory is overtaxed and his faculty of originality and criticism remains unstirred. In Dr. Stewart's book

we find summed up the present position of the researches which have been carried out in organic chemistry within the last ten years, and it must be admitted that this period has been a fruitful one. He has dealt with the subject not historically but from the synthetic point of view, each step in the synthesis being awarded a separate section, "so that at any moment the reader can see exactly how far he has advanced, and can easily refer back to any stage which he may wish to read again." This is the author's excellent plan of treatment which sharply differentiates his book from all those text-books to which we have alluded. The chapters speak in the clearest possible terms of the wonderful constructive work which chemists have achieved, and present the ingenious lines of reasoning which have resulted in this success. Among medical readers, perhaps, the chapter on the synthetic alkaloids will attract most attention, although of equal interest to medical science is the chapter on the polypeptides, a branch of research which promises some day to culminate in the building up of that important class of compounds the proteins. We note that in this section the author departs from the nomenclature recommended by a committee of the Chemical and Physiological Society in regard to protein substances. He refers, for example, to albumenous bodies and albumens. At one time the word "albumen" signified the white of egg, but it was agreed to drop the word altogether and to substitute as a general term "albumin" preceded by the word indicating its origin, and so albumen became egg-albumin, the albuminous substance of blood serum-albumin, and so forth.

The book is instructive in regard to past work and is calculated also to stimulate fruitful thought and action in the future. It is thus something more than a text-book, for it points the way to fields yet untilled in regard both to practical and theoretical considerations.

Movable Kidney: A Cause of Insanity, Headache, Neurasthenia, Insomnia, Mental Failure, and Other Disorders of the Nervous System; a Cause also of Dilatation of the Stomach. By C. W. SUCKLING, M.D. Lond., M.R.C.P. Lond., Consulting Physician to the Queen's Hospital, Birmingham, &c. 1909. Birmingham: Cornish Brothers, Limited. Pp. 155. Price 5*s.* net.

THIS is the second edition, although this fact is not stated on the title-page. Some three years ago we reviewed the first edition, and our opinions then expressed have undergone no change on the perusal of this issue. Those who examine the abdomen frequently know how very commonly a kidney may be found to be moveable and yet no symptoms are present that can be ascribed to this mobility; and in fact, this harmlessness of the condition is the rule. In such cases as these it is in the highest degree unwise to tell the patient that a moveable kidney is present, for if he or she be in the least degree neurotic the idea of possessing a moveable kidney will become an obsession and every ache and pain will be put down to it; many new aches and pains will also arise in response to the demand. That severe symptoms may result from a moveable kidney few will be disposed to deny, but it is easy to over-estimate the importance of the mobility, and this, we think, Dr. Suckling has done. Some of the cases reported in this book are certainly striking, and in some of them we are willing to agree that the operation of nephropexy was, in part at least, responsible for the improvement, but in most of them it is probable that the operation acted as a suggestion. We are told that the patient stays in bed for four weeks after the operation; this rest in itself should have a beneficial effect on many of the symptoms. However, we agree that cases do occur in which a moveable kidney is causing symptoms, and that fixation of the kidney will be very beneficial to the patient. But care should be exercised in the choice of cases, for it is easy to seize upon a common lesion like mobility of the kidney and account through it for various nervous conditions which may happen to be present.

Contributions to the Physiological Theory of Tuberculosis. By CHARLES CREIGHTON, M.D. Aberd., sometime Demonstrator of Anatomy, Cambridge Medical School. With 64 illustrations in the text. London: Williams and Norgate. 1908. Pp. 242.

AFTER studying the histogenesis of experimental tuberculosis in rodents and comparing it with the evolution of certain structures in the placenta of the same class of animal, Dr. Creighton reviews the whole subject of tuberculosis, including the "spontaneous" disease occurring in man and bovine animals. As a result of his own observations and of his interpretation of the results obtained by other workers he rejects the bacillary theory of the causation of the disease, and endeavours to establish in its stead a physiological theory, according to which the genesis of tubercles and the occurrence of secondary and necrotic changes in connexion with the lesions so induced are not specific, but own a physiological analogue in the histological processes occurring in the placenta. It is difficult to state Dr. Creighton's theory succinctly, or even to quote his own statements regarding it, since his style is discursive and he refrains from summarising his contentions into an actual definition or outline. The nearest approach to it is on page 134, where he gives what he refers to as the "point of view" from which he approaches the pathogenesis of bovine and human tuberculosis in the following words. "Nearly the whole of bovine tubercle is a chronic disorder of nutrition, to which breeding may predispose in a very high degree. A large part of human tubercle is also chronic and a disorder of nutrition to which also breeding predisposes greatly." Further, on page 135, after the statement that "No experiments on the smaller mammals can ever reproduce the manifold circumstances of human and bovine tubercle," he explains the results obtained in experiments by saying, "Means are used which in effect, if not in intention, produce a rapid dissolution of the blood extravasations, disintegration of the blood discs at innumerable centres and corresponding tissue reactions due to the efforts which the organism will always make (in non-lethal conditions) to meet an emergency or crisis, howsoever arising." In order to study the evidence upon where these somewhat cryptic generalisations are based it will be best to review briefly the material presented by the writer.

The book is divided into three parts, the first of which is devoted to the histogenesis of experimental tubercle. After summarising previous researches upon this subject, Dr. Creighton considers the special features of the tuberculous lesions in the animals most often chosen for laboratory studies of the disease—viz., rabbits and guinea-pigs—and then records his own observations on the histogenesis of tuberculous lesions in the lung of the rabbit and in other organs of rodents. In regard to the lung, after injection of emulsified bacilli into the vein of the ear the first condition which results is widespread microscopic thrombosis followed by diapedesis into the air cells and a dispersion of the nuclear chromatin of the leucocytes. These nuclear particles cling to red blood corpuscles, which they serve to build up into the large mononuclear protoplasmic (epithelioid) cells of rodent tubercle. Later a branched plasmodium appears in the thrombosed vessels, apparently due to fusion of these epithelioid cells. Such a blocked vein forms the centre of the actual tubercles, the bulk of which consists of a protoplasmic tissue, trabecular, syncytial, or plasmodial, with large nuclei usually vesicular and clear. The changes are

summed up as "blood dissolution and plasmodial reconstruction." The second part is devoted to the placental analogies of these processes, and an attempt is made to establish the formation in the placenta of the plasmodial or syncytial tissue which it contains from the substance of red corpuscles extravasated from the maternal vessels. The necrotic, caseous, and hyaline changes which occur in the placental structures and are eventually the cause of its separation after its work is done are regarded as further supporting the analogy. The histological changes in the two forms of caseation are described as identical, and Dr. Creighton therefore refuses to regard the caseation of tubercle as a remote action of the bacillus. The third part deals with human and bovine tuberculosis. The histological characters of the various lesions produced in tuberculosis of different organs are analysed in the light of the views previously expressed. The giant cells are regarded as thrombi or blocks in the vessels, while the epithelioid cells are said to be formed from leucocytes and certain cells of the ground substance through the assimilation of the extravasated red blood corpuscles.

It will be seen that Dr. Creighton's views are startlingly heterodox. For him the bacillus is not specific in its effects—its primary action, and its only direct action, according to his view, is upon the red blood corpuscles, and similar results may be produced by other agencies. He scornfully rejects the doctrines of immunity and scoffs at the "metaphysical jargon" in which they are "couched." At the same time he brings no rebutting evidence, but simply ignores the subjects of bacterial toxins, of agglutination, and of the reaction to tuberculin, all of which rest upon definite experimental evidence which cannot be brushed aside by mere ridicule. His histological studies are of interest and are obviously worthy of careful consideration, but we cannot regard his contention of the non-specific character of tubercle as proved. That the histological changes own a physiological prototype is surely no sufficient reason for denying to the tubercle bacillus a specific activity in the genesis of tuberculosis, since on his own showing that organism can, and does, inaugurate the changes which eventually lead to the production of tubercles. In place of the definite conception of a specific infection Dr. Creighton offers only a vague and indefinite speculation as to a disorder of nutrition, and he fails to make clear what actual part the bacilli play in the production of the "spontaneous" disease.

Intestinal Auto-intoxication. By A. COMBE, M.D., Professor of Clinical Pediatry at the University of Lausanne (Switzerland), &c. Together with an Appendix on the Lactic Ferments, with particular reference to their Application in Intestinal Therapeutics. By ALBERT FOURNIER, formerly Demonstrator at the Sorbonne, Paris. Only authorised English adaptation by WILLIAM GAYNOR STATES, M.D., Clinical Assistant, Rectal and Intestinal Disease, New York Polyclinic, &c. London: Rebman, Limited. 1908. Pp. 461. Price 16*s.* 6*d.* net.

CONSIDERABLE attention has been paid in recent years to the subject of the bacteriology of the alimentary canal and of the affections due to the chemical changes which result from microbial action. The book before us sets forth Professor Combe's personal experiences in this field and at the same time refers to a great number of researches by other observers. He starts by defining the term auto-intoxication, and excludes from it toxæmias in which the poisons are formed outside the body and even those formed within the body under the influence of microbes introduced incidentally from without. Intestinal intoxications are, however, included as being due to perverted action of bacteria normally present, and apparently in the author's view symbiotic, in so far as they normally take part in the process of digestion. He limits his study in the present volume to intoxications arising from faulty proteid metabolism. Microbial action in the intestine is found to resemble pancreatic digestion or the action of strong alkalies on proteins. Absorption of poisonous bodies from the gut is facilitated by inflammation of its mucous membrane. Defence against absorbed poisons is carried on partly by the cells of this layer of the intestine, partly by the liver, and partly by certain glands, such as the thyroid, pituitary, and suprarenal bodies. When abnormal putrefaction has occurred in the gut it may be lessened by diminishing the amount of proteins taken, by introducing antagonistic bacteria, by intestinal antiseptic drugs, and by purgatives and lavage of the gut.

The book contains much that is worthy of study by those who are interested in a branch of medical study that is still in a very rudimentary stage. The translation leaves a good deal to be desired. Some sentences are scarcely intelligible, and the punctuation is extraordinary. "Dose" and "dosage" are not used in English for "estimation" of quantities of substances not employed as medicines. We are accustomed to the habit of medical writers of writing compound words (e.g., heart-disease) without hyphens, but to print terms such as "muco enterocolitis," "meningeo spinal," "lacto bacilline" thus as separate words is carrying the licence of ignorance rather far. The translator seems uncertain even as to the spelling of certain words; thus we find "cariokinesis," "kariolysis," and "karyolysis." Mis-spellings which we are prepared to regard as misprints are also unduly common—"salycilate," "practiced," and so forth; and we know of no authority for the use of "ileus" for the ileum or lower part of the small intestine.

School Hygiene. By ROBERT A. LYSTER, M.D., Ch.B., D.P.H., B.Sc. Birm., B.Sc. Lond., County Medical Officer of Health for Hampshire, and Chief Medical Officer to the Education Committee of the Hampshire County Council, &c. Second edition. London: W. B. Clive, University Tutorial Press, Limited. 1908. Pp. 388. Price 3*s.* 6*d.*

THE publication of a second edition of Dr. Lyster's book on School Hygiene has afforded him an opportunity of adding a chapter on the organisation of medical inspection in schools. In this chapter he gives some useful suggestions in regard to the work of the medical officers for schools, and also as to the methods of recording and analysing the results obtained by the examination of children. He defines as the essential object of routine medical examination to discover the children who are abnormal, and to point out to the parents the necessity for seeking medical treatment. He rightly deprecates the giving of diagnoses to the parents as likely to lead to friction with those in actual medical charge of the child. In our review of the first edition we commended this text-book as a useful one for those concerned with the education of the young, and it is only necessary to state that in so far as this edition is concerned any alterations made are in the nature of improvements.

WORTHING HOSPITAL. — Corresponding with the growth of the town of Worthing have been the increased demands upon the Worthing Hospital. During the year 1898 there were 1818 out-patients and 227 minor accidents; during 1908 the figures respectively were 2732 and 468. The honorary medical staff in the past has numbered four, but with a view of lightening the duties, the governors, in considering the question of the vacancy caused by the death of Mr. A. H. Collet, decided on May 14th to increase the medical staff from four to seven, one of the new members of the staff to be the anæsthetist to the hospital. The rules of the hospital were so altered as to admit of the increase in the staff, and a new rule was also passed requiring that every medical officer shall retire on attaining the age of 65.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

SPHAGNOL PREPARATIONS.

(PEAT PRODUCTS (SPHAGNOL), LIMITED, 18 AND 19, QUEENHITHE, UPPER THAMES-STREET, LONDON, E.C.)

ATTENTION may be directed to the claims of sphagnol preparations in regard to their use in the treatment of eczema and other skin troubles, since there appears to be little doubt that sphagnol is effective owing to the fact that its active principles consist, amongst other things, of the antiseptic substance creasote combined with sulphur. Sphagnol derives its name from the fact that it is a distillation of peat, and the oil appears to have a value similar to ichthyol in skin diseases, such as acne, herpes, rosacea, and eczema. Sphagnol has the advantage of being non-corrosive and non-irritating. According to some printed statements upon the subject sphagnol in the form of soap and ointment appears to act very effectually compared with other applications used in skin diseases. The soap, we find, is very pleasant to use, and is evidently prepared from desirable materials. It lathers well and imparts a feeling of softness to the skin. Besides a medical soap containing 50 per cent. of sphagnol there are prepared also a toilet and nursery soap containing 5 per cent. of sphagnol, a shaving soap with the same amount, and an ointment containing 10 per cent. of this interesting peat product. Lastly, it is reported that suppositories containing 10 per cent. of sphagnol have been employed with success in the treatment of hæmorrhoids.

P. G. B. BRANDY.

(WILSON AND VALDESPINO, LIMITED, 5, NEW LONDON-STREET, LONDON, E.C.)

We can take no objection to the statement that this is a pure grape brandy 14 years old. Its mellowness on the palate bears evidence of its maturity, while the results of analysis reveal the presence and amount of secondary constituents commonly found in a matured pot-still grape spirit. It has quite a distinguished flavour and of the kind that is appreciated by connoisseurs of genuine old brandy. The secondary constituents amounted to the following in parts per 100,000 parts of absolute alcohol present: aldehydes, 40·00; furfural, 1·50; ethers, as ethyl acetate, 185·00; and higher alcohols, 140·00.

SANATOGEN.

(THE SANATOGEN CO., 12, CHENIES-STREET, LONDON, W.C.)

This interesting compound of milk protein and phosphorus in organic combination has recently been improved in regard to its flavour in compliance with the peevish propensities of children and the sick. Certainly the flavour of sanatogen as it is now prepared leaves little to be desired and thus successfully meets an objection which has to be reckoned with. There is abundant evidence of the value of sanatogen as a restorative and food, and more particularly in cases of general debility.

LACTITIA.

(THOMAS CHRISTY AND CO., 4, 10, AND 12, OLD SWAN-LANE, UPPER THAMES-STREET, LONDON, E.C.)

We understand that this infant food preparation made from buttermilk is identical with a similar preparation in Holland called Nutricia. Its chief merit appears to be that it is made from buttermilk, which, though not showing a composition replete in all classes of food, and especially of fat, is well known to be very digestible. In Nutricia the deficiency of fat is made up by the addition of a special preparation of wheat flour. The whole is of a pasty consistence containing, according to our analysis, 66·46 per cent. of water. The protein amounted to 10·48 per cent., the fat to 2·44 per cent., the milk sugar to 10·00 per cent., the starch to 9·34 per cent., and the mineral matter to 1·28 per cent. It is debateable whether the fat in milk finds an efficient substitute in a carbohydrate, but evidence is given of the success of this food for infant requirements. Possibly the use of buttermilk gives it special digestive quality, and the modified carbohydrate may serve in the same way as barley water in preventing formation of indigestible lumps during gastric digestion.

LACTEOL TABLETS.

(AGENTS: ROBERTS AND CO., 76, NEW BOND-STREET, LONDON, W.)

The activity of these tablets as regards their lactic acid producing power was proved by their effect upon fresh milk. The acidity of the milk was doubled in two hours and quadrupled in 24 hours. They therefore may be trusted for the antiseptic treatment of the intestinal tract as in auto-intoxication and in catarrhal conditions.

SOYA FLOUR.

(THE HULL OIL MANUFACTURING COMPANY, LIMITED, STONE FERRY, HULL.)

We have examined a sample of edible soya flour from the above firm and the following are the results of our analysis: moisture, 8·90 per cent.; protein, 55·50 per cent.; starch carbohydrate, 29·00 per cent.; and mineral matter, 6·60 per cent. No less than 38 per cent. of the preparation proved to be soluble in water and a large proportion of the soluble substances consisted of protein. There can be little doubt, therefore, of its nutritive and digestible character, while the flour should be valuable for those patients for whom an excess of carbohydrate is undesirable.

INVALID PORT (MARTINEZ).

(VICTORIA WINE CO., 12-20, OSBORN-STREET, LONDON, E.)

This is supplied by well-known shippers in the Alto Douro and may be described as a robust invigorating port suitable for invalid purposes where, under medical advice, the use of such wine is sanctioned. According to our analysis the wine contains 21·19 per cent. of alcohol by volume; extractive matters, 9·63 per cent.; mineral matter, 0·13 per cent.; and sugar, 9·00 per cent. The volatile acidity was a negligible quantity, amounting to merely 0·06 per cent. The port may be described, therefore, as non-acid. The flavour is "round" and fruity.

GLUCAPHEN.

(FRANK A. ROGERS, 327, OXFORD-STREET, LONDON, W.)

Glucaphen is described as a compound containing the proteid ingredients of milk and wheat combined with suitable small doses of glycerophosphates. The results of our analysis confirmed this description, the following figures being obtained: moisture, 10·30 per cent.; protein, 77·61 per cent.; fat, 6·39 per cent.; and mineral matter, 5·70 per cent. The mineral matter consisted practically entirely of phosphates, partly of mineral origin, but which are largely due to the glycerophosphates present. Not quite 50 per cent. of glucaphen proved to be soluble in cold water, so that the statement in regard to its digestibility may be accepted. The food has already received practical testimony as to its nourishing value, and more particularly in the case of patients debilitated by disease or those possessing feeble digestive power.

IMPERIAL DOUBLE STOUT.

(THE NEW CROSS BREWERY, POMEROY-STREET, LONDON, S.E.)

This proved to be a well-brewed malt liquor containing a notable amount of malt extractives. Analysis showed these extractives to amount to 6·45 per cent., while the mineral matter, chiefly phosphates, amounted to 0·35 per cent. As far as we can find, there is no point about this stout calling for further special remark.

THE LANCET.

LONDON: SATURDAY, MAY 22, 1909.

The Oration before the Medical Society of London.

THE annual oration of the Medical Society of London, delivered by a physician or surgeon of recognised eminence in the profession, usually affords material for comment or criticism. Dr. H. D. ROLLESTON, the orator of this year, whose wide experience and comprehensive knowledge of medical literature render him peculiarly fitted for the honour, chose two separate though cognate subjects for discussion—viz., the classification and nomenclature of diseases, and appended an interesting but too brief reference to diseases due to treatment. With so wide a range of controversial matter to deal with Dr. ROLLESTON is critical and analytical rather than constructive in his remarks, and being of logical mind indicates the limitations and defects of our present systems of classification and nomenclature, while he refrains from propounding new ones, though he occasionally forecasts the probable directions in which progress will be made.

In sciences such as botany and zoology, in which the present state of knowledge is sufficiently advanced to permit of the application of a system, classification and nomenclature go hand in hand, but even here changes not infrequently have to be made as the result of research, as witness the frequent changes of name of some of the causal agents of diseases such as the ankylostoma duodenale and the treponema pallidum. Dr. ROLLESTON gives an interesting history of some of the more important systems of classification of diseases since that of FELIX PLATER in 1680, and refers in feeling terms to their fruitless character and their forgotten graves in the dust of libraries. He mentions especially the systems of CULLEN and JOHN MASON GOOD, both of which were for a time employed by Dr. WILLIAM FARR at the General Register Office but found to be unworkable. Little interest has of late been taken in nosological problems in this country, except in regard to the official nomenclature of diseases which follows no special system and is convenient rather than scientific. One of the most recent attempts at classification is that of LANCEREAUX and PAULESCO in France in 1907, which, after modification by a commission of the Académie de Médecine, was favourably reported on. For the most part these systems fall into two groups: first, symptomatic and regional; and secondly, etiological. There are obvious defects and difficulties about both of these, since the former would group together conditions upon superficial resemblances, while the latter would sometimes be inconvenient from a descriptive point of view—e.g., to quote an illustration given by Dr. ROLLESTON, peritonitis is more conveniently classified as an abdominal disease than as a local manifestation of infection with various organisms; moreover, classification in cases of mixed infection would be difficult on a purely etiological basis. He is therefore of opinion that a compromise of the etiological and regional systems is, for the present, *faute de mieux*, to be preferred to a rigid adherence to either. An interesting distinction is made between a disease and a symptom-complex or group of symptoms, the former owning a definite and special cause, the latter being a group common to several different causes. Dr. ROLLESTON points out that as our knowledge advances conditions formerly regarded as individual diseases are proved to be only symptom-groups, and, on the other hand, that some conditions now regarded as individual diseases are in reality group diseases, a group disease being defined as "a characteristic collection of symptoms which may be due to any one of a group of allied organisms." Of such group diseases, enteric fever and influenza are instanced as examples.

On the general text of classification Dr. ROLLESTON makes some interesting observations on the future of the physician and on the relations of physicians and surgeons. The former broad classification of diseases into medical and surgical has practically become obsolete since surgery and bacteriology have so extensively and so successfully invaded the domain of medicine both in regard to diagnosis and treatment. In the future the outlook for the pure physician, as Dr. ROLLESTON at once humorously and pathetically expresses it, "between the surgeon and the deep sea of bacteriology," is a parlous one. He thinks that the only remedy is to accept the inevitable trend towards specialism, and so to rearrange the existing spheres of influence that one man treats at least one group of diseases from start to finish, as is already the case in regard to gynæcology and laryngology. He therefore suggests that to this end "the general physician and general surgeon should be merged and should reappear as medical officers to departments or wards for special study of the body." Such medical officers should be trained to perform the operations which may be required in connexion with the region of the body of which they make a special study. The difficulties which would be encountered in establishing such a radical change in the professional scheme of this country would no doubt be considerable, and Dr. ROLLESTON discusses some of them. The first objection, that physicians being unskilled in operative technique would only be slowly replaced by their specially trained successors, could be met by the appointment of special operative assistants during the period of transition. The arrangement and allotment of the various regions and their diseases to specialists would also at first possibly lead to difficulties, and Dr. ROLLESTON briefly outlines a general grouping. But his suggestions that there might well be a department for fevers and for conditions of doubtful diagnosis, and that the out-patient departments would probably have to be less specialised so as to ensure a general education both for the medical officer and for students, indicate one of the greatest difficulties in connexion with such a system—viz., the method of selection of the cases to be sent to the special departments. Another obstacle to such a rearrangement would be the reluctance

of the surgeons, who would not relish giving up some of the more lucrative part of their work. Yet another difficulty is the educational aspect of the change, for while no doubt the student would receive excellent teaching in the special departments from those in charge of them, yet it is necessary that he should be instructed in the general principles of the diagnosis and treatment of disease, since training by specialists only is likely to lead to too narrow a view, and to hide the fact that disease is an abnormal condition of the patient and not an entity. Dr. ROLLESTON admits that his suggestions may seem visionary, but points out that the principle is already in practice in the case of gynæcology and obstetrics. It is possible that eventually some such re-arrangement will come about, indeed it, or something very like it, is already an established condition in some countries, but with our innate conservatism it is probable that in these islands the change will be a gradual one, unless the principle of operation by physicians becomes accepted, when the existing specialties would soon become self-contained. The system has much to commend it, for it must be confessed that it would be more rational that, when called in to make a diagnosis, the physician should be so trained as to be able to carry out the treatment which he suggests. The patient applies to the medical practitioner for treatment, and it is small wonder that he sometimes finds it difficult to appreciate a scheme which requires more than one person to afford him the relief he needs.

If classification is in an unsatisfactory condition nomenclature is in a worse, and here Dr. ROLLESTON is critical but without making much suggestion for improvement. He is one of the few authorities who have a kind word to say for the application to a disease of the name of its discoverer, even for compound names, such as the Stokes-Adams disease. We do not share his views, but we allow that apart from doing honour to and keeping known the names of masters in medicine this system of nomenclature is non-committal as to the nature of the disease. On the other hand, controversy as to priority may lead to multiple synonyms, as in the case of exophthalmic goitre, which has, as Dr. ROLLESTON mentions, no less than seven observers' names attached to it. He discusses the different forms of nomenclature and regards the pathological method as the most satisfactory, but this is not applicable in diseases of which the morbid changes are not yet known. In other instances the popular or folk names of diseases are so firmly established that it would be difficult to replace them. A standard nomenclature is highly desirable, not only for statistical purposes so as to enable figures from different sources to be compared, but also to get rid of the multiplicity of synonyms, which are confusing and unnecessary. The official nomenclature of the Royal College of Physicians of London was first undertaken in 1857 and published in 1869. It is now subject to decennial revision, the last edition having been published in 1906. It is the standard by which the medical profession in this country is more or less guided, but perhaps as pathological knowledge advances an international system of nomenclature comparable to that established in anatomy may be achieved.

The concluding section of Dr. ROLLESTON'S oration is highly interesting, and deals with the subject of diseases and morbid conditions due to treatment. Owing to limitations of time he was only able to refer briefly to some of the more obvious of these, but the subject is one which might usefully be considered in detail, and there is no one from whom we would rather hear the full story than Dr. ROLLESTON.

The Rôle of Anæmia in Anæsthesia.

MORBID conditions of the blood have been recognised of late years as constituting important factors in the prognosis of surgical operations. Both from the point of view of the surgeon and from that of the anæsthetist graver risks are run by patients whose blood has suffered depreciation through disease or hæmorrhage than is the case with patients whose blood count is normal and whose hæmoglobin standard is satisfactory. In a paper contributed to the *Intercolonial Medical Journal of Australasia* of Jan. 20th Dr. R. T. SUTHERLAND reopens this subject, dealing with anæmia and the incidence of fatality under chloroform among the anæmic. He has analysed 900 recorded cases of chloroform administration at the Women's Hospital, Melbourne. The blood pressure was measured in these cases and of course was found to be lowered, as always obtains during the use of chloroform. In young women the blood pressure averaged 110 to 130 mm. Hg, and those with a high pressure, we are told, did not do well under chloroform. Among the women aged 45 years and above the average blood pressure was 100, and no untoward symptoms occurred under chloroform. The blood was examined also, and it was found that the incidence of danger under chloroform fell most upon patients who were anæmic and in proportion to the degree of anæmia. Other conditions—age, sepsis, blood pressure—appeared to be dominated by the blood state. Anæmia from whatever cause acted prejudicially when chloroform was employed.

These conclusions are noteworthy. Dr. SUTHERLAND regards anæmia as causing danger under chloroform owing to (1) the fact that in anæmia, while the total volume of blood is increased, the relative number of corpuscles is decreased; (2) the larger volume of blood allows more chloroform to be absorbed; and (3) the poor quality of the blood leads to malnutrition of the heart and so renders it more liable to chloroform poisoning. Dr. SUTHERLAND has been led to employ ether for anæmic subjects and has met with satisfactory results. The second contention advanced is probably unsound, at all events in its entirety, as the recent work done on the action of chloroform has revealed the fact that the red cells are the active carriers of chloroform as of other anæsthetics, and so it is doubtful whether the blood of anæmic subjects does absorb more chloroform than is the case with normal individuals. The contention that the tissues are ill nourished is no doubt the main factor in producing danger in such persons, and this applies with even greater force to the tissues of the central nervous system than to the fibres of the myocardium. MCWILLIAM and others have proved that in the case of certain of the lower animals acute dilatation of the heart occurs when

chloroform is inhaled, and there appears to be little doubt that when the musculature of the heart is poorly nourished this dilatation is accentuated and is liable to pass beyond the degree which is consistent with ultimate contraction. This fact probably explains the tendency to heart failure under chloroform to which Dr. SUTHERLAND draws attention. It is, however, the nervous system which suffers most in anæmic states. Dr. LEONARD HILL'S work has taught us that the central nervous system when depleted of blood or supplied with blood of poor quality is peculiarly liable to be affected by drugs. A dose of chloroform, which is well within the safe limit if supplied to a normally nourished medulla, will destroy the nerve cells the vitality of which is lowered by starvation. It is matter of common clinical experience that anæmic persons, more especially those in whom the bloodlessness is the result of chronic morbid processes, frequently take anæsthetics badly and are liable both to circulatory depression of more or less severity and to storms of irregular nervous action often making for respiratory failure or inadequacy. The rôle which poverty of hæmoglobin plays is probably that it leads to chronic oxygen starvation—a condition consistent only with depressed tissue vitality. That chloroform reacts more dangerously than ether is explicable when it is remembered that the former is a powerful protoplasmic poison; the latter seldom destroys cells unless used in enormous quantities—quantities which are outside the range of the usages of the anæsthetist. And this consideration probably gives the key to the problem presented when chloroform has to be used for patients suffering from advanced anæmia. It is not the chloroform which kills so much as the use of large quantities for prolonged periods and a concomitant deprivation of oxygen. The actual quantity of chloroform required for anæmic patients is far less than in the case of healthy subjects, and when oxygen is employed *pari passu* with the anæsthetic one of the chief dangers is diminished almost to the vanishing point.

The effect of oxygen in protecting tissues from chloroform toxæmia has been demonstrated experimentally by Professor C. S. SHERRINGTON and Miss SOWTON and clinical experience supplies ample corroborative evidence. Methods which do not enable the anæsthetist to estimate the results of his dosage except by the advent of dangerous symptoms must be always perilous for patients who are anæmic. This is so because restriction of the quantity given is the only chance of safeguarding them from initial dangers, and also because their tissues once subjected to overdosage are so readily destroyed that resuscitative measures are seldom of any avail. Dr. SUTHERLAND has done a useful service in commenting upon this aspect of anæmia, since, although many surgical writers have insisted upon the dangers of general anæsthetics for persons in whom the blood count has revealed a marked depreciation of the corpuscular constituents, they have failed to realise that the danger lies, not so much in the anæsthetic, as in the manner in which it is employed. The inquiry is really far-reaching and involves not only the question of how far chloroform when introduced in massive doses destroys the red corpuscles—that it does so is certain—but also how far it is capable of destroying the active glandular tissue of organs such as the liver and the kidneys. In acidosis anæmia is a fairly constant factor, and malnutrition of tissue probably plays an important part in bringing about the necrobiosis of epithelium which is the prelude to abeyance of glandular function. It is sometimes said that anæmic persons "take anæsthetics well," and the statement may be accepted by the superficial observer, since the actual induction of anæsthesia is often simple in the case of the asthenic. However, there can be no doubt, when we recall the facts which experiment has demonstrated, that the dangers in these cases are of a nature which is not revealed in the gross phenomena incident to induction; they are insidious, far-reaching in their effects even when giving little warning of their presence until catastrophe occurs. Anæmia must be accepted as proof of a general tissue starvation and therefore of a greatly lessened power of resistance to drugs such as chloroform. To be forewarned is in such cases to be forearmed.

The Factors of Sex.

ALL medical men are perforce students of the phenomena of heredity, and the doctrines of Mendelism have consequently attracted the close attention of many of our readers. Medical men may not be prepared to endorse the claim that the application of Mendel's method of research has so clarified the study of heredity that this study has now become for the first time an organised branch of physiological science, but all must allow that abundant and suggestive results have accrued from the observation of a very wide range of zoological and botanical types. Among the latest developments of work along these lines is an attempt to show that the etiology as well as the influence of sex can be reconciled with Mendelian principles; and though it is a far cry from this position to that of ability, for example, to prophesy whether the infant on whom a crown or an estate should devolve will be male or female, any evidence that sex is determined by gametic differentiation will be welcomed by earnest students of heredity as a matter of enormous promise. Work in this direction will be upon practical and definite lines.[1] At present the essential factors which determine the sex of the fœtus are not known, but this want of accurate information has not in the least deterred many of those who have devoted their attention to the subject from supplying from the imagination that which was lacking in their knowledge. There have been put forward many theories to account for the sex of a child; some of these are over 2000 years old and some are of our own time, and the modern theories have been, some of them, as fanciful as the ancient. The conditions prevailing in the invertebrate animals are very different from those obtaining in the vertebrata, so that it is a little dangerous to maintain that the determining cause of sex in the lower animals is identical with that in the higher animals and in man. It is by no means proved that, in the respect of the determination of sex, mammals and the lower vertebrates are identical, or even that man resembles other mammals on this point, though it is

[1] See the review on p. 1461 of Mendel's Principles of Heredity, by Professor W. Bateson.

extremely probable. These uncertainties have tinctured all deductions.

Inasmuch as a woman has two ovaries, it was suggested very early in the study of the subject that one ovary supplied male ova and the other female; a similar differentiation of function was ascribed to the testes, and the union of like with like was supposed to give rise to a fœtus of that sex, while if unlike met no fertilisation resulted. Such theories as these have for the most part been discarded, but in a modified form Mr. E. RUMLEY DAWSON[2] has recently revived the idea, maintaining that the right ovary of a woman contains only male ova and the left ovary has only female ova, while he considers that the father has no influence on the sex of the ovum. This differentiation between the functions of the two ovaries is usually considered to be answered by the case of the birds, in which the right ovary atrophies and only the left survives to supply all the ova of both sexes, but it is hardly safe to take for granted that the arrangements for the sexing of ova in the bird must be the same as those in the human being. Mr. DAWSON brought forward many arguments and facts in support of his opinion, but the verdict must be that his theory has no proper scientific foundation. Some ten years ago the theory put forward by Professor SCHENK received much attention; he held that if the urine of a woman contained any sugar whatever, even an amount so small as to be recognisable only by the phenyl-hydrazin test, there was a high probability that she would give birth to females rather than to males. In order that she might have male children Professor SCHENK advised that her diet should be so modified as to cause the total disappearance of the sugar. It may be taken for granted that the theory has broken down, for it was so easily to be tested that it has certainly been put to the trial, and if there had been any successes which could not be explained by coincidence we should certainly have heard much of them. The fault of most of the theories advanced hitherto is that there has been but little attempt to find facts, except to support some special theory. We know so little of the subject that the chief desideratum now is the collection of facts. Facts are needed on which to base a sound theory, and statistics, if rightly handled, should at least provide useful suggestions, but very few statistics are available.

It is known that in European races more boys than girls are born, and the average is almost constant—106 boys to 100 girls—and if regard be paid to stillbirths the excess of boys is still greater, for many more stillbirths occur with male children than with female. Nothing certain is known as to the reason of this disproportion, though some suggestions have been made. Another interesting fact is that amongst illegitimate children the excess of males is less marked than it is amongst legitimate children, the proportion being only about 103 boys to 100 girls. Little, however, has been done in the direction of obtaining statistics as to the variations in these proportions and their apparent causes, and therefore a paper recently read before the Royal Society by Mr. WALTER HEAPE is of special value. The title of the paper was "The Proportion of the Sexes Produced by Whites and Coloured Peoples in Cuba." It was based on the records of the Sanitary Department of Cuba, in which details are given of the births and stillbirths both of the white and coloured people of that island; and these record[s] of births also distinguish between those which are legitimate and those which are illegitimate. The numbers are large and therefore of special value; they deal with the years 1904, 1905, and 1906, and during these three years there were in all 171,297 births and 6407 stillbirths. These totals are from monthly records for each of the three years and for each of the six provinces into which Cuba is divided. In each case the proportion of males for every 100 females has been calculated. The first noteworthy point that may be extracted from these statistics is that the white inhabitants produce a larger proportion of males than do the coloured people. For the whites the proportion varied from 106·8 to 110·5, with an average of 108·4. For the coloured population the proportion varied only from 101 to 101·2, with an average of 101·12, and this racial difference was shown both in the live births and in the stillbirths This marked racial difference is probably due to heredity, for the white inhabitants of Cuba mainly came from Spain. The sex ratio in legitimate and illegitimate births is given in figures relating to both white and coloured populations. In each of them the illegitimate births show an increase in the proportion of female children. In whites the total legitimate births are 107·78 males per 100 females, while the illegitimate are only 104·4 males per 100 females. In the coloured race the legitimate births are 106·76 and the illegitimate are only 96·76 males per 100 females. Mr. HEAPE points out that this difference cannot be a result of heredity, but must follow from some physiological conditions which modify the metabolic activity of the woman; he suggests that this exceptionally active metabolism in the mother affects favourably the development and ripening of female ova.

Another point of interest brought out by these statistics is that in Cuba there are each year two sharply defined breeding seasons, each of which corresponds to a change of temperature; one in the autumn occurs shortly after a sudden change from great heat to cooler weather, and the other in the early months of the year at the time when the cool weather of winter is giving place to spring. This effect of change of climate is seen also in the relative proportion of the sexes of the children produced, for at the breeding seasons when the increased metabolic activity of the mother is present there is a definite increase in the proportion of female births, and this is seen in both races. The effect of town as compared with country life on the sex ratio is also worthy of attention. The proportion of females born in the towns is considerably higher than in the country. No law of heredity yet known to us can account for this variation; it seems obviously due to extraneous forces, and of these perhaps food and climate are the chief. The statistics in short furnish evidence that in the human subject extraneous forces can exert a very definite influence on the proportion of the sexes. The matter is worthy of the fullest study. It would be well if the statistics of the British Isles could be more informative on some of these minor

[2] See the review on p. 1462 of "The Causation of Sex," by Mr. Rumley Dawson.

points than at present. An increase in the details of registration must mean a great increase of expense, but anything which would assist the settlement of the abstruse problem of the causation of sex might in the end be an economy.

Annotations.

"Ne quid nimis."

"CONSCIENTIOUS OBJECTION" TO REVACCINATION.

WITH the great majority of medical men the efficacy of vaccination in preventing small-pox is an accepted fact, and many persons without medical training have arrived at the same opinion from perusal of the evidence given by various speakers and writers. At the same time it is only too well known that large numbers of the public are apathetic in the matter, while a few are actively hostile to vaccination. For the last 10 years or thereabout the tendency of legislation has been to relax the stringency of earlier enactments until the vaccination of an infant depends entirely on the option or discretion of even the least enlightened parent. Neglect of vaccination is sure to result in an accumulation of susceptible persons ready to contract small-pox in epidemic times. Not many epidemiologists will deny this, and the most that can be said in favour of granting exemption to "conscientious objectors" is that under it a class of people are deprived of a grievance which appeals to popular sympathy because often founded upon honest conviction. It has for a long time been thoroughly well known that the protective effect of primary vaccination diminishes with lapse of time. The cicatrices, however, remain as evidence that the operation has been performed, and the occurrence of small-pox in persons vaccinated 20 years previously supplies the principal arguments of the antivaccinationists. Revaccination is the remedy for the slow but sure waning of the protection afforded by primary vaccination. If the primary vaccination has been good and the repetition not delayed for too many years the local effects are not usually troublesome and the individual enters on a fresh period of immunity, provided, of course, that the usual period of incubation (rather less than a fortnight) elapses between the insertion of the lymph and the exposure to small-pox infection. As revaccination is not open to any objection except from the sentimental point of view and is largely practised both in the case of persons employed in hospitals and also in the public services, it is astonishing to find that the Postmaster-General has decided that, in future, candidates for Post-office employment who have conscientious objection to revaccination may be allowed exemption therefrom in making a statutory declaration to the effect that they conscientiously believe that revaccination would be prejudicial to their health. Now it is hardly possible to argue seriously that the revaccination of adults is accompanied by any of the contentious possibilities which appeal to popular sympathy in connexion with the vaccination of infants. Infants are liable to many diseases and have a high death-rate. Vaccination followed by illness will always leave in the minds of the parents a rankling suspicion that the two are in the relation of cause and effect. Post-office officials, on the other hand, have reached at least the adolescent stage and are presumably in the enjoyment of good health. Since they are also free agents, not under any compulsion to seek this kind of employment, it is difficult to believe that they have for some years past been deliberately sacrificing their health by submitting to what some antivaccinationists have called the "filthy rite" of revaccination. These Post-office officials, again, are just entering on what proves for many of them a tolerably permanent career—a period which is obviously propitious for giving them protection against a disease which before the days of Edward Jenner claimed no small number of victims annually. As if the attitude adopted by the Postmaster-General with regard to revaccination were not already sufficiently unreasonable, he goes on to declare that exemption from primary vaccination cannot be allowed. If the latter is indispensable and compulsory in the postal service, why is the former optional? In modern times small-pox is no longer attended with the same aggregate mortality as in pre-vaccination days, but there is a large number of persons who are susceptible in a minor degree owing to the progressive diminution of the protection obtained in infancy. Their susceptibility may be so slight that they may have small-pox in a form so trivial as not to constitute what is popularly called "bodily illness." These trivial cases, however, are sufficiently infectious to disseminate the disease and cause virulent attacks in sufficiently susceptible persons. From a medical point of view they have the further disadvantage of sometimes occasioning difficulties in diagnosis through being mistaken for varicella and certain eruptive skin diseases. Outbreaks of small-pox in which Post-office officials are in any way concerned will increase the responsibilities of the medical officers, and on this ground alone, apart from any other consideration, it will be interesting to know what the British Postal Medical Officers' Association thinks of the new regulation. Without the intelligent acceptance of revaccination by the public at large there is no prospect of small-pox ever coming to be reckoned among the extinct diseases.

THE INVESTIGATION OF THE ELECTRICAL PHENOMENA ACCOMPANYING THE ACTION OF THE HEART.

INCREASED refinement, precision, and delicacy of experimental methods are necessary to the full analysis of many things which may seem comparatively simple in their essence. Electrical phenomena manifested by living tissues have attracted and fascinated numerous observers, and every advance in the effectiveness of the means of research means a stride on towards their interpretation. It requires the combined labours of many inventors and investigators to arrive at anything like the full measure of truth. After Lippmann had invented his capillary electrometer, Dr. Augustus Waller in 1887 applied this instrument to the study of the electromotive phenomena manifested by the living beating heart in an intact dog, and great was the joy of the late Professor du Bois Reymond of Berlin when Waller demonstrated the result to him. Professor W. Einthoven of Leyden has invented a string galvanometer which is much more sensitive than Lippmann's electrometer, and with it he has been able to record electro-cardiograms of the human heart. We are able this week to give an account of some of the results obtained by Einthoven's instrument which Dr. Waller has written for us after a personal visit to his famous Leyden *confrère*. This achievement forms a fitting celebration of the coming of age of Waller's discovery just a little over 20 years ago that each beat of the normal heart of man and animals is accompanied by electrical variations which can be observed and recorded. Waller was able to map out the distribution of electrical potential in the body due to the asymmetrical position of the heart, and indicated certain combinations of the points of "lead off" which were effective, while other combinations were found to be ineffective. Thus any two points on opposite sides of the plane

of zero potential or equator—e.g., right hand and either foot—caused the mercury to pulsate with each beat of the heart, while with the mouth and left hand no such result was obtained, the combination was ineffective. In cases of transposition of organs these combinations were found to be reversed. Einthoven's instrument, however, is so sensitive that it gives an effect even from Waller's ineffective combinations. The wave traverses the heart from base to apex, and to base again. It is significant that the electrical charge traverses the heart in the order in which the heart tube is developed and folded on itself—a wave sweeping over the musculature from the venous to the arterial orifices. Professor Waller considers that for clinical purposes the tactus eruditus of the physician will hardly be helped by this instrument, and has never had the idea that the electrical signs of the heart's action could ever be applied for clinical investigation. Still we have the great fact—a triumph of physiological investigation—that by leading off from the extremities of a man, woman, or child the electrical effects accompanying the heart beat can be seen and photographed. It is possible that the day may come when the electro-cardiogram may be used as an aid to diagnosis and to the interpretation of some of those phenomena manifested in cases of heart disease which at present remain obscure. It is not so long since the *a.-v.* bundle, or bundle of His, was discovered, and yet anatomists had been looking at the heart for centuries.

THE SITE OF TYBURN TREE.

IN a remarkable passage in "The Ryecroft Papers" the late George Gissing has given it as his opinion that to attempt to realise in imagination the various tortures suffered by the prisoners, innocent or even guilty, of all time is an occupation too dreadful to indulge in. It is the thought of all these sufferings that makes history an impossible study for George Ryecroft. A similar reflection might cross the minds of some on visiting the site of the old Tyburn Tree, which now, thanks to the researches of Mr. Herbert Sieveking, has been localised and commemorated by the London County Council by a brass triangle imbedded in the asphalte of the roadway at the southern extremity of the Edgware-road marking where the triple gallows stood between the years 1196 and 1759. "Looking back down the long vista of six hundred years," writes Mr. Alfred Marks in his "Tyburn Tree: Its History and Annals,' "we see an innumerable crowd faring to their death ..... to the chief of English Aceldamas, the field of blood known as Tyburn. Of this crowd there exists no census; we can but make a rough estimate of the number of those who suffered a violent death at Tyburn: a moderate computation would place the amount at 50,000." Of this great multitude a majority were probably sufferers for trivial offences or for imaginary crimes; a large minority were paying the penalty of crimes of violence not so common in the present as in the past ages of popular unenlightenment and ignorance. But to innocent and guilty alike the present age must extend an equal sympathy. The journey to Tyburn in the death-cart was a gruesome business. In some cases the malefactor went merrily to his doom, carrying the nosegay, tied with white silk ribbons, which it was the custom to present to him at the door of St. Sepulchre's in Holborn. In other cases the last ride was rendered hideous by the jibes and missiles of the populace. We read of these miserable journeys in the quaint pages of Silas Told, the Methodist, who bravely accompanied many to their fate. He has, it is supposed, been painted by Hogarth riding in the cart with the doomed "Idle Apprentice," to whom he is offering spiritual consolation. Told was usually allowed to accompany the Newgate Chaplain or "Ordinary," who made part of his living by selling a verbatim account of the "Behaviour, Confessions, and Dying Words of the Malefactors" executed at Tyburn. Several prints are extant of executions at Tyburn, some of which appear in Mr. Harper's "Half-Hours with the Highwaymen," but in none of these do we see any indication of the presence of a surgeon at the last moment, though we know that the "surgeons' mob" were always in attendance ready to cart off the corpse or the partially asphyxiated body to Surgeons' Hall, where many resuscitations are reported to have been effected. The actual process of hanging was often most barbarous. According to Henri Misson the friends of the victim had often to help him out of his agony as he struggled in the air by drawing down his legs and striking him on the breast.

A NEW METHOD OF BLOOD TRANSFUSION.

IN the March number of the *American Journal of Surgery* appeared a paper by Dr. J. A. Hartwell of New York which had been read before the Surgical Section of the New York Academy of Medicine in January last. It described a new method for transfusion of blood. The operation of direct suture of the vessels of the donor and the recipient, as devised by Carrel and Crile, is extremely difficult, the minuteness of the needles and sutures employed proving a great tax on the sight and manual dexterity of the surgeon, and the risk from clotting is great. Payr's cannula method as modified by Crile is more simple and it is theoretically good, as the intima of the two vessels are brought in contact, but practically it is by no means easy, for it is almost impossible to find a convenient artery in the human body that can be drawn over the cannula. Dr. Hartwell collected notes of 43 cases in which one or other of these methods had been used. In half of these cases the operation was practically a failure, and Dr. Hartwell gives brief particulars of four other cases on which he himself had operated and not one of them could be called perfectly satisfactory. He therefore devised a new method which seems to promise more. The radial artery of the donor is dissected out for two inches under cocaine anæsthesia; the small branches are isolated and tied, and the vessel itself has a ligature thrown round it, but it is not tied. The wound is then covered with a warm, moist pad. An accessible vein is chosen in the forearm of the recipient, below the bend of the elbow; it is similarly isolated, and, if possible, a small tributary is dissected free for an inch on the central side of the proposed anastomosis, and this branch is loosely clamped at its distal end. The main vein is then tied distally and divided. The adventitia is stripped from the cut vein and three sutures of fine silk, impregnated with vaseline, are passed through the media and intima at equal distances round the cut end, and the wound is covered with a moist, warm pad. Next the artery of the donor is tied and divided just above the ligature. The adventitia is removed from the cut end and a small roll of it is slid upward along the artery for an inch or so and left attached, and through it a silk ligature is passed. The artery is then immersed in liquid vaseline and it is passed by means of small forceps directly into the mouth of the vein, which is held open by the three sutures. The rigidity of the arterial wall makes this easy. One or two of the venous sutures are tied to the adventitia of the artery in order to prevent separation of the two vessels, and if necessary another of the venous sutures is employed to make the vein blood-tight round the artery. The obstructing clamps are then removed, but it is well, as in all methods of direct transfusion, to let the blood flow slowly in so as not to overburden the right heart. Dr. Hartwell has used this method many times on the dog, but once only on

the human being, and that was in a case in which the cannula method had been previously employed unsuccessfully. The transfusion was very satisfactory; in fact, too much blood was given by the donor. The use of the lateral branch of the vein already mentioned is to enable the surgeon to see by taking off the clamp if any blood is flowing. The chief difficulty in all these methods of direct transfusion is found in determining how much blood is being transferred. Many cases have occurred in which the surgeon was under the impression that much blood had passed, but the fact that the blood pressures both of the donor and of the recipient were unaltered made it certain that none or very little blood had been transferred. An increase in the hæmoglobin of the recipient certainly shows a successful transfusion, but there is no close relation between the increase in colouring matter and the actual amount of blood received. The alterations in the blood pressures have also been used as a gauge, but there are many other factors which vitiate any accurate estimate being based on them. Weighing the donor and the recipient would be satisfactory, but the practical difficulties are almost insuperable. Even if the rate of flow from the artery be gauged previously to the anastomosis this rate could not be used with much value to estimate the quantity transfused. The dangers to the recipient are four: first, the possibility of a hæmolytic action of one blood on the other; secondly, the entrance of air or emboli into the vein; thirdly, the employment of a donor with a communicable blood disease; and fourthly, over-distension of an enfeebled right heart. The operation is without real danger to the donor, but it is well to take care not to abstract too much blood. During the operation continuous rectal infusion should be employed or a saline infusion may be administered at the end of the operation. We consider that the comparative simplicity of Dr. Hartwell's method is a strong argument in its favour, and in suitable cases where direct blood transfusion is indicated it is deserving of a trial. It has the great merit that no real suturing of the vessels is needed, and yet the blood in passing from the donor to the recipient does not come into contact with any structure likely to give rise to rapid clotting.

A CRUSADE AGAINST FLIES.

Now that it has been conclusively established that flies convey disease, let the nation wage war against these repulsive insects and take steps as far as possible to exclude them from among us. The campaign should be begun at once for the fly season is near at hand, and there can be little doubt that if everybody did his best to exterminate the fly a very distinct advantage to the public health would be gained and a most interesting example afforded of the lessons which progressive medicine teaches. It is not always possible to trace the origin of illness, but it is easy enough to give valid reasons why the fly can be the introductory agent. Purely medical aspects apart, the fly is not particularly scrupulous as to its environment: it alights at one time on most offensive material and at another it is on the food in the kitchen and at the table. One of the earliest experiments we remember to have seen showing the connexion of flies and disease was that in which a common blue-bottle was allowed to walk across a piece of freshly sliced potato. The potato subsequently developed colonies of micro-organisms all along the track taken by the fly, while elsewhere no development took place. The important question remains how best to get rid of the fly. Fly-papers and sticky strings are unsightly, and the struggles of a fly to release itself from a sticky substance is not an entertaining spectacle. In our own experience the best exterminating agent is a weak solution of weak formaldehyde in water (say two teaspoonfuls to the pint) and this experience has been confirmed by others. It would appear that flies are attracted by a weak solution of formaldehyde, which they drink. Some die in the water, others get as far only as the immediate vicinity of the plate of water, but all ultimately succumb, and where they occur in large numbers, hundreds may be swept up from the floor. It is consoling to know that by this method the flies have died under a dose of a fluid which is fatal to disease organisms, a fluid also which is inoffensive and for practical purposes non-poisonous. The method at once provides a means of diminishing the scourge, and of securing to some extent what is most desirable, the disinfection of the slain.

THE LYNN THOMAS AND SKYRME FUND.

IN another column we publish an abstract of the report of Mr. William Sheen, the honorary secretary of the Lynn Thomas and Skyrme Fund, upon the raising of the Fund, together with an account of the ceremonials to be observed at its presentation on June 4th at Cardiff. The eminent French surgeon, M. Lucas-Championnière, President of the International Society of Surgery, is to make the presentation and will also give an address upon the Modern Treatment of Fractures, which in the circumstances will have great topical interest. The presence of a foreigner and of one who is such a leader in his profession as M. Lucas-Championnière is one more proof of the truth of the saying that science knows no politics and is additional evidence of the friendship existing between ourselves and the French nation. We join our congratulations with those of our professional brethren at Cardiff to Mr. Lynn Thomas and Mr. Skyrme on the successful result of the appeal, not only in that its result has been of pecuniary service to them, but also because it shows that they have won the sympathy of their professional brothers.

HYDATID FREMITUS TRANSMITTED THROUGH THE THORAX AND FELT BY THE PATIENT.

AT a meeting of the Société Médicale des Hôpitaux of Paris on April 2nd M. A. Chauffard reported a case in which hydatid fremitus was observed under new conditions. The patient was a butcher, aged 33 years, who in his occupation was frequently brought into contact with hydatid disease. His thorax was asymmetrical; the lower part of the chest on the right side projected and the intercostal spaces were enlarged. The right chest measured 48 centimetres in circumference and the left 41. On percussion hepatic dulness extended as high as the nipple and downwards four fingers' breadth below the ribs. Radioscopy showed a dome projecting from the antero-superior part of the liver and extending as high as the nipple. The blood contained 3 per cent. of polynuclear eosinophiles. On placing the fingers of the left hand across the back of the right chest below the angle of the scapula, and lightly percussing in front over the fifth or sixth rib with the right index finger, a series of small undulatory vibrations (hydatid fremitus) was clearly perceived. This fremitus was also perceived by the patient, who compared it to the undulation produced by throwing a stone into water. Hydatid fremitus could not be obtained in the ordinary manner by percussion on one of the fingers placed on the anterior part of the thoracic projection. Thus the case presented two peculiarities: the hydatid fremitus was obtained only across the thorax, and it was clearly perceived by the patient himself. M. Chauffard suggests that the vibrations were both transmitted and perceived by the costal arches, and that the very delicate sensibility of bone to vibrations, for example to those of the tuning fork, which has been shown to exist by the researches of M. Egger, should be taken into account. This form of hydatid fremitus

can be obtained only in similar cases to that now described—large cysts rising above the convexity of the liver. Fremitus in connexion with hydatid cysts is a useful sign when present, but is only found in a minority of the cases, since the conditions for its production are not always fulfilled. It would appear that the cyst must be of a certain size and that the tension of its walls must not be too great. Thus it is sometimes found that after partial aspiration a fremitus may be elicited over a cyst from which it was not previously obtainable. It was at one time supposed to be due to the impact of daughter cysts against one another, but it can certainly be obtained over cysts from which they are absent. A somewhat similar thrill can sometimes be obtained in other cystic swellings. In the above case the transmission of the fremitus across the chest, while it could not be obtained by percussion on the anterior surface, is of special interest. A similar sign has been described in effusions within the pleural cavity of children by Mr. T. H. Kellock, so that it cannot be regarded as pathognomonic of hydatid disease. The appreciation by the patient himself of the fremitus is also an unusual occurrence, and the suggestion put forward by M. Chauffard to explain it is a very plausible one. It would be worth while in any case of prominence of the chest such as this one to try for the sign in the manner described.

THE LIVERPOOL POLICE, INEBRIETY, AND THE ALIENS ACT.

THE report of the chief constable of Liverpool for the year 1908, recently laid before the watch committee of that city, contains observations upon the working of the Inebriates Act from the point of view of that executive authority which brings the inebriate before the magistrate and which has ample opportunity for observing the practical aspects of the sentence which follows. The statistics of Liverpool show that up to the time of the inquiry of the Departmental Committee of last year 113 persons had been committed there under the Inebriates Act of 1898. Of these, 17 were males and 96 females. After various periods of detention, 60 of them, including 8 males and 52 females, had been released, of whom 38 (4 males and 34 females) had since relapsed. Definitely proved failure to bring about any lasting result in so many of the cases treated at considerable expense is not a very encouraging result. The chief constable of Liverpool ascribes the lack of success to the difficulty of applying the Act in time. In his view, the persons upon whom reforming measures are tried are too often past cure. They are enormously benefited during the time that they are under restraint, but they are too far gone before committal to be able to resist temptation when restored to liberty, and he suggests that it should be possible to bring under the provisions of the Act those who are at an earlier stage in the downward road. He also criticises the practice of treating first convictions for drunkenness lightly, instead of trying to make the convicted person realise that he has committed an offence against the law of which he ought to be thoroughly ashamed. This is a matter for the consideration of magistrates who, we feel sure, are actuated by a desire to exercise clemency towards men or women, possibly young and certainly foolish, but not in the ordinary sense criminals, whereas, on the other hand, a severer attitude on the part of the bench may have a salutary effect in checking the formation of habits of excess. Another point of interest in the report before us relates to the passing of foreign emigrants and immigrants through Liverpool, of whom we are told that "every possible device for robbing and cheating them is tried. Since the United States and Canada became strict in their medical examination, especially with trachoma, smuggling rejected emigrants through the immigration bureaux, cheating them under the pretence of being able to cure them or to smuggle them through, has led to several prosecutions, and during this last year the one prosecution here under the Prevention of Corruption Act was obtained for an attempt to bribe a shipping company's doctor." It is consoling to learn that most of the offenders of this class are aliens themselves who can be deported, but we gather from a subsequent remark of the chief constable of Liverpool that he has little faith in such expulsion securing the permanent absence of the expelled criminal from this country. He may not return to Liverpool or to any other locality where he is known to the police, but he finds his occupation too profitable to be abandoned without seeking another field of operation in this hospitable island. We note also that the deporting of 13 undesirable aliens sent home from Liverpool cost the country about £148.

DIRECT APPLICATION OF THE X RAYS IN INTERNAL DISEASE.

IT is now well established that the x rays have a curative effect on superficial epitheliomata. But in deep-seated lesions, to which they cannot be directly applied, their value is considered doubtful, opinions varying, as our correspondence columns have shown. It has occurred to Dr. Carl Beck of New York to try the effect of applying the rays directly to the latter by means of an operation (eventration) and thus to put superficial and deep disease on the same level. In the *New York Medical Journal* of March 27th he has reported seven cases so treated. Though the number is small the results may be described as encouraging. A man, aged 40 years, had a large carcinoma of the pylorus which was slightly moveable. On its surface were several annular nodules attached to neighbouring parts, and there were several enlarged glands. Instead of performing pylorectomy, which he regarded as dangerous, Dr. Beck dissected the adherent area as far as was necessary to allow the diseased part to be pulled into the abdominal wound and sutured to the skin. No reaction followed the operation. Soon afterwards the x rays were applied daily for nine days. Then an erythematous spot began to form on the pylorus, but the skin showed no reaction. The application of the rays was stopped. Five days later the pylorus was of a pink colour. This became more marked, while the growth gradually disappeared. A week later the adhesions were divided and the pylorus was pushed back into the abdomen, which was closed. During the treatment small quantities of milk were given by the mouth and nutrient enemata. In the first week vomiting was frequent but was held in check by subcutaneous injections of morphine. The patient complained repeatedly of cramps in the region of the wound, which continued until three weeks after the operation. After this the rays were applied once a week for 15 months. The patient gained 18 pounds in weight and a growth could no longer be felt. In a second case, a woman, aged 43 years, had an induration on the anterior surface of the stomach and suffered from frequent hæmatemesis, pain, and cachexia. Exploratory laparotomy was performed on Feb. 4th, 1908, and revealed a large ulcer with indurated margins. The affected part of the stomach was sutured to the skin as in the first case. On the third day the x rays were applied. The patient progressed so well that she was discharged from hospital after four weeks. She gained 12 pounds in weight and has remained well ever since. In the third case, a cachectic man, aged 66 years, had a hard mass in the right iliac region of the size of the hand. Laparotomy revealed a nodular mass attached to the posterior part of the iliac fossa which was diagnosed as a fibrous carcinoma. Extirpation seemed

to be very dangerous. The peritoneum was stitched to the surface of the growth, exposing a portion of the size of the palm for x ray treatment. On the day after operation the rays were applied for five minutes, and this was repeated every day for a week and then every other day. After a fortnight slight erythema appeared and the treatment was discontinued for two weeks. Then it was given every third day. A week after the operation no tumour could be felt. The wound closed by granulation. The patient is now well and able to work. In the fourth case, a man, aged 52 years, had a large inoperable carcinoma of the anterior wall of the stomach with adhesions to the liver and ascites. The rays were applied on the second day after operation. His pulse and general condition improved remarkably for a few days, but he died suddenly ten days after the operation. In a fifth case, a man, aged 50 years, showed a similar condition to that present in the last case. After three weeks' treatment he had gained four pounds, and after five weeks he felt so well that he insisted on returning home, but returned twice a week for treatment. He suffered from insomnia, and after remaining in a fair condition for two months died from an overdose of morphine. In the sixth case, a woman, aged 48 years, who had a large carcinoma beyond ordinary surgical intervention of the descending colon died on the fifth day after operation. In the seventh case, a man, aged 38 years, had an irremoveable carcinoma of the stomach, left lobe of the liver, and omentum. Though extremely weak he was improved considerably and a month after the operation had gained six pounds in weight. Then his condition remained stationary. The tumour decreased, but he succumbed to marasmus three months after operation.

LLANDRINDOD WELLS.

RADNORSHIRE may be described as the baby county of Wales, for although it has a greater acreage than Anglesey, it has only about one-half the population of that county, the number of persons enumerated at the last census being 23,263, an average population for a country town. Llandrindod is situated about the centre of the county, of which it is the most populous town, although its resident population is not more than 3000 persons. During the summer and early autumn months of the year a considerable number of visitors are attracted to the district to drink the waters and to undergo treatment in the various bathing establishments, which for some years past have had a considerable reputation, more especially among the residents of South Wales. With a view of making the place more extensively known an invitation was recently extended to a large number of medical men in all parts of the British Isles to visit the town on May 15th, and between 60 and 70 accepted the invitation. They found that Llandrindod possessed peculiar attractions. Situated 800 feet above sea level, still greater heights may be won with a minimum of exertion or fatigue. The wooded hills protect from the colder winds on one side, while on another there is a magnificent expanse of open country. The medicinal springs cannot compare either in number or variety with those at Harrogate, but for practical purposes they are sufficient. Chloride of magnesium is found in all of them and in some in considerable amount, chloride of lithium is a constituent of most, and the water from several is impregnated with sulphur. There is at least one chalybeate spring. The baths are well appointed and include in their equipment facilities for high-frequency treatment, a local cell bath, the Dowsing bath, and the later violet and red light bath. Treatment with this last is said to have been especially successful at Llandrindod. The town itself is well laid out with broad streets and plenty of open spaces and gardens. The water-supply is excellent and ample, and the drainage is taken well away from the inhabited districts to be treated in septic tanks and over bacteria beds. We have pleasure in drawing the attention of our readers to the claims of Llandrindod Wells.

A FURTHER ADVANCE IN THE ETIOLOGY OF SLEEPING SICKNESS.

A SHORT time ago Professor Kleine reported the results of an experiment he had carried out, in which some specimens of *Glossina palpalis* were fed on animals infected by *Trypanosoma brucei*, but that these flies failed at first for some 14 to 20 days to infect fresh animals; after that interval, however, the flies developed ability to infect and continued to do so up to the forty-seventh day, when the experiment terminated. It was recognised at the time that if these results were confirmed by other competent observers a great discovery had been made, for it demonstrated that the trypanosome undergoes a cycle of development in the tsetse fly, a possibility which had been suspected by some, but as to which previous researches had yielded so far no positive results. It was therefore gratifying to be able to record in our last issue that the Royal Society has been informed by its commissioner, Colonel Sir David Bruce, that the Sleeping Sickness Commission in Uganda had repeated Professor Kleine's experiments with *Trypanosoma gambiense* and *Glossina palpalis*, also with a trypanosome of the dimorphon type and the same tsetse flies, and found the flies infective after 16, 19, and 22 days. We may therefore now regard the *Glossina palpalis* as the host of the *Trypanosoma gambiense*, in which the latter undergoes a cycle of development, and that the infective process is not a merely mechanical transmission. This discovery is likely to establish a new starting point for fresh investigations into the nature of the process, and in what part of the fly the cycle of development of the parasite takes place. Other problems connected with this advance in our knowledge of trypanosomiasis have also arisen, and already the director of the Sleeping Sickness Bureau in the sixth bulletin is indicating fresh lines of investigation with a view to finding satisfactory solutions for them.

ARTIFICIAL RESPIRATION AS PRACTISED IN HOLLAND.

AT the present juncture, when expert opinion in England is still unsettled as regards the best manner of resuscitating the apparently drowned, it is of interest to ascertain the methods practised by the first-aid guilds in Holland, the birthplace of humane societies. In two recent papers Dr. G. Van Eysselsteijn,[1] the director of the University Hospital in Groningen, gives an account of past and present methods of artificial respiration employed in Holland, with a most valuable criticism of their merits and demerits. The method of Silvester is the standard one in Holland and in Dr. Van Eysselsteijn's opinion is still by far the best both in principle and practice. Marshall Hall's method is known but seldom used; Howard's method is also known but used wrongly; Laborde's method is often employed. Professor Schäfer's method is known only to a few medical men and in Dr. Van Eysselsteijn's opinion is altogether wrong as regards the principles on which it is based. The first aim of every method designed to recover the asphyxiated, in Dr. Van Eysselsteijn's opinion, should be the relief of the right heart. Every form of pressure applied to the body during endeavours to resuscitate he thinks is wrong, because the blood is thereby forced from the abdomen and further distends and embarrasses the right heart. For this reason he rejects the method of Professor Schäfer. He also objects

[1] Nederl. Tijdschrift voor Geneeskunde, 1908, vol. ii., p. 1436; also Tentoonstelling en Congres van Roode Kruis en Reddingwesen, The Hague, 1909, p. 90.

to the pressure applied to the chest in the respiratory phase of Silvester's method as proposed by Brosch. He is convinced that the modern way of estimating the efficiency of a method of artificial respiration by means of a spirometer is wrong; his experience shows that an asphyxiated person is much in the condition of a hibernating animal and that a very small respiratory exchange is sufficient for recovery. Dr. Van Eysselsteijn's papers constitute an appeal for a more careful and expert application of the Silvester method; he recognises that unless rightly applied this time-honoured procedure is valueless.

THE RESIGNATION OF DR. LIVEING.

ON May 13th the President of the Royal College of Physicians of London announced at the Comitia held on that day that Dr. Edward Liveing had sent in his resignation as Registrar of the College. A motion, which was unanimously adopted and which will be found in full at p. 1477, was proposed by Sir William S. Church and seconded by Dr. Norman Moore regretting the resignation of Dr. Liveing and recording on the minutes of the College "the faithful and efficient manner in which he has for so many years carried out the duties of his office." Dr. Liveing became Registrar in 1889 and his services have consisted in the most laborious and unremitting discharge of every duty attached to that office. His intimate acquaintance with the business of the College has enabled him on more than one occasion to be of the greatest service in guiding it to a wise decision in matters of difficulty. In the Comitia both Sir William Church, speaking from his experience of six years as President, and Sir Richard Douglas Powell, the present President, described the invaluable help which Dr. Liveing has given upon every occasion and in every detail. Dr. Norman Moore said that Dr. Liveing was no mere recorder of the events of the Comitia, admirable as his writing of the Annals always was, but that in addition he had exercised a most judicious influence on all the proceedings, and might justly, as he contemplated the volumes of the Annals for the past 20 years, say with Æneas, "Et quorum pars magna fui." Dr. Liveing's services on the Committee of Management have been equally valuable; he always showed a complete acquaintance with the subject under consideration and admirable tact in every discussion. We congratulate Dr. Liveing on the well-earned panegyrics of his colleagues.

THE INCIDENCE OF TUBERCULOUS LESIONS IN A SERIES OF NECROPSIES WITH SPECIAL REFERENCE TO PLEURAL ADHESIONS.

AN interesting communication made to the Pathological Section of the International Tuberculosis Congress held at Washington last year was published in the *Montreal Medical Journal* for April. The note was presented by Dr. A. R. Landry and Professor J. George Adami of McGill University, Montreal, and was entitled "A Study of Organised Pleural Adhesions and their Relationship to Tuberculosis, based on an Analysis of 1374 Consecutive Autopsies." As the series is a larger one than has yet been published in medical literature, it throws considerable light on the incidence of pleurisy and of other tuberculous lesions amongst the general population. The following are the facts concerning the material of the research. The necropsies at the Royal Victoria Hospital, Montreal, amount to about three a week, and the number of infants and children under 12 years admitted to the hospital is well below the average of the general population; chronic long-standing cases of any disease are rarely admitted to the wards, and the same restriction applies to cases in which active pulmonary tuberculosis has been diagnosed. The series of necropsies began in 1895, when but 1841 patients were admitted to the wards, and finished in 1907, in which year the admissions amounted to 4044. The research was directed to the record of organised pleural adhesions, interlobar adhesions not being included. The diagnosis of tuberculosis was based on naked-eye examination, tubercles, invisible to the naked eye, in the cervical and other lymph glands not being taken into account. The following main orders of pleural adhesions were noted: (1) generalised, affecting one or other lung; (2) scattered or sporadic; (3) apex free, but occasional adhesions below or in front; (4) adhesions separated with difficulty; and (5) those which could be destroyed by the slightest touch. Of the 1374 cases examined 990, or 72·1 per cent., exhibited adhesions of one or other degree; 384, or 27·8 per cent., were free from adhesions. As these figures accord well with those determined by Lord of Boston, who found 74·4 per cent. of bodies showing adhesions in 215 necropsies, "it may safely be laid down that in the north-eastern portion of North America seven out of ten adults exhibit indications of a previous pleurisy." Of the 1374 cases 558 (40·6 per cent.) afforded definite macroscopic evidence of tuberculosis in the thoracic cavity. 68 other cases showed evidence of tuberculosis either in the mesenteric glands, liver, spleen, or bones. In all, 626 out of 1374 bodies (or 45·5 per cent.) showed signs of tuberculosis.

ALCOHOLIC MYOSITIS.

IT has long been known, more particularly since the researches of Senator, that alcohol may produce changes in muscles independently of any affection of the peripheral nerves, although the frequently simultaneous occurrence of the two conditions has led to the former being practically ignored. Alcohol, however, may occasion an acute interstitial myositis with subsequent cirrhosis of the muscles where no pathological change can be detected in the peripheral nerves. In the *Medizinische Klinik* of April 25th an excellent instance is described by Dr. Robert Bing of Basle. Clinically, alcoholic polymyositis is usually characterised by two stages—an acute stage and a more chronic stationary period. During the former the prominent feature of the disease is myalgia, consisting either in spontaneous muscular pains or an excessive tenderness on pressure. Sometimes a subcutaneous œdema, in places almost as hard as a board, is found over the affected muscles, but the joints are left free. The volume of the muscles begins at first to increase somewhat, but later they gradually become atrophic. There is no reaction of degeneration, but simply a diminution of electrical excitability. In the case of the patient mentioned by Dr. Bing, the ordinary symptoms of alcoholic polyneuritis were present, and in addition certain muscles exhibited changes of a totally different nature. Thus the right biceps, which had in an earlier stage been the seat of much myalgia, became hard and shrunken, so that the arm could not be extended beyond a right angle. On palpation the muscle was of a curiously inelastic consistence. Several other muscles—the pectoralis major, deltoid, and latissimus dorsi—were affected in a similar way; the rest were not. A quantitative diminution of electrical excitability was noted. The patient dying suddenly from uræmic coma, an opportunity was afforded of a complete pathological examination of the different muscles and nerves. The ordinary signs of chronic peripheral neuritis were found in the parenchymatous degeneration and subsequent thickening of many of the nerves, but the condition more particularly of the right biceps was highly instructive. Scattered throughout the muscle were areas of myositis, the more chronic being in the

belly of the muscle, resulting in cirrhosis, and the more acute infiltrative processes being at the extremities; much of the muscle was also quite normal. Of all the nerves examined those supplying the biceps were least affected, yet that muscle showed the myositic changes in a marked degree. These changes were clearly of an inflammatory nature, suggesting a direct toxic action of the alcohol on the muscle tissue.

SYPHILIS IN ITS RELATION TO DENTITION.

THERE has recently appeared in the columns of *Dental Cosmos* (November and December, 1908; January and Febuary, 1909, by Dr. Cavallaro) an exhaustive paper on the Relation of Syphilis to Dentition. The author has been able to confirm the discovery of Pasini that the spirochæta pallida is to be found in abundance in the dental follicle in proximity to the vessels and their walls. He shows that a curious modification of the lower ends of growing teeth can often be demonstrated in the form of a construction of the dental papilla which clinically corresponds to the atrophy of the tooth cusps so often seen. He states that at this part certain changes can be noted in the pulp tissue, the nuclei are better stained, and the infiltration of the embryonal cellular elements is more intense. He also has found in the dental follicles the following alterations—namely, endovasculitis, perivasculitis, and hæmorrhage. The lesions of syphilis, as far as the teeth are concerned, are usually seen in the permanent series on the incisors and first molars, and this he attributes to the fact that the maximum intensity of the virulence is during the last months of intrauterine life and the first three months of extra-uterine life. In his opinion the deciduous teeth do not always escape, but the reason why they are not so likely to be affected is due to the fact that these teeth dentify between the seventeenth and eighteenth weeks, when syphilis rarely manifests itself, and, if it does, usually tends to abortion. In addition to the changes already referred to in the follicle, he finds certain histo-chemical alterations in the enamel and dentine. A detailed account of 38 cases is given, and to 22 of these illustrations of the teeth lesions are added. Dr. Cavaliaro shows that in many cases not showing the typical Hutchinson's teeth other defects of the teeth are invariably present, and seems to regard these latter defects as pathognomonic of hereditary syphilis. With this we can hardly agree, because the type of lesions which he figures are all to be found in patients not showing a trace of congenital syphilis. An excellent bibliography is added to the paper.

THE annual dinner of the Indian Medical Service will be held at the Gaiety Restaurant, Strand, on Thursday, June 10th, at 7.45 P.M., Sir George Birdwood, K.C.I.E., in the chair, when the service will have the honour of entertaining General Sir O'Moore Creagh, V.C., K.C.B., Commander-in-Chief in India elect, as their guest. Officers intending to be present should communicate without delay with the honorary secretary, Lieutenant-Colonel P. J. Freyer, 27, Harley-street, W.

THE Croonian Lectures of the Royal College of Physicians of London will be delivered at 5 o'clock P.M. at the College on the following Tuesdays and Thursdays, June 15th, 17th, 22nd, and 24th. The lecturer, Dr. Lazarus-Barlow, has taken as his subject Radio-activity and Carcinoma.

AT the meeting of the London Education Committee on May 19th it was reported that the inquiries of the special committee into the cost of medical treatment of school children are being limited to the cost of treating eyes, ears, and skin diseases. Dental conditions are not included in the present reference.

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies states that 6 cases of plague with 4 deaths were reported during the week ending May 15th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF THE COUNCIL.

AN ordinary meeting of the Council was held on May 13th, Mr. HENRY MORRIS, the President, being in the chair.

Sir Shirley Forster Murphy and Mr. George Dancer Thane were introduced, and after signing the by-laws and making the required declaration were admitted Fellows of the College.

Mr. John Percy Lockhart Mummery was introduced and the PRESIDENT handed him a cheque for the amount of the Jacksonian Prize for the year 1908, together with a document declaratory of the award.

Mr. Arthur Swayne Underwood was introduced and the PRESIDENT handed him a cheque for the John Tomes Prize, together with a document declaratory of the award.

An undergraduate of Liverpool University, Mr. John Robert Douglas Webb, was appointed the second Begley Scholar.

The SECRETARY reported the death, on April 9th, at the age of 82 years, of Mr. Claudius Galen Wheelhouse, LL.D., a past member of the Council. The following vote of condolence was then carried:—

That the Council hereby express their deep regret at the death of Mr. C. G. Wheelhouse, whom they highly esteemed as an able surgeon, keenly interested in all matters relating to surgical education and the advancement of surgical science, and whose services to the profession and to the College they remember with grateful appreciation.

That the Council desire also to record their warm regard for the excellent personal qualities which won for Mr. Wheelhouse the friendship of all who knew him and to convey their sincere sympathy to Mrs. Wheelhouse and her daughter in their bereavement.

It was resolved to issue diplomas of Membership to 91 successful candidates and diplomas of the Licence in Dental Surgery to 30 successful candidates.

Mr. C. A. Ballance was elected a member of the Court of Examiners.

A letter was read from Mrs. Macloghlin offering to the College a work in bronze and marble by Alfred Gilbert, M.V.O., entitled "Mors janua vitæ." The offer was accepted with thanks.

The PRESIDENT stated that the vacancy on the Board of Examiners in Dental Surgery, occasioned by the retirement of Mr. Pearce Gould from the Court of Examiners, would be filled up at the next meeting of the Council.

MEETING OF HUNTERIAN TRUSTEES.

Lord WALSINGHAM presided at a meeting of the trustees of the Hunterian Collection which was held at the Royal College of Surgeons on May 12th. A committee appointed by the trustees at their previous meeting to examine into the state of the collection reported that they had duly inspected the collection and had found evidence of progress and improvement. The committee expressed their approval of a new system of box-indexing and descriptive labelling of specimens. Other trustees present were Mr. Henry Morris (President of the College), Sir John Tweedy, Dr. Norman Moore, and Dr. J. Kingston Fowler.

LIVINGSTONE COLLEGE.—Commemoration Day will be celebrated at Livingstone College, Leyton, E., on May 26th. The proceedings will commence at 3.30 P.M. The chair will be occupied by the Very Rev. H. Montagu Butler, D.D., Master of Trinity College, Cambridge. Professor A. Macalister will give an address on the Need of Elementary Medical Training for Missionaries in China, and Dr. M. A. Stein, the Asiatic explorer, will speak on the Importance of Elementary Medical and Surgical Knowledge in Far-off Lands. A special train will be provided from St. Pancras at 3.5 P.M., returning from Leyton (Midland) at 5.50 P.M. First-class tickets can be secured by sending 1s. to the Principal, or they may be obtained from a representative of the College on the platform.

LYNN THOMAS AND SKYRME FUND.

THE APPEAL AND THE RESPONSE.

WE have received a report from Mr. William Sheen, honorary secretary of the Lynn Thomas and Skyrme Fund, in which he summarises the results of the appeal to the medical profession which first appeared in our issue for March 21st, 1908, over the signatures of a numerous and representative body of leading physicians and surgeons. It may be of interest to recall the circumstances of this appeal. An action was laid against Mr. J. Lynn Thomas, C.B., surgeon to the Cardiff Infirmary, and Mr. H. E. Skyrme of Cardiff by a plaintiff named Southern, who claimed £2000 against the defendants, being dissatisfied at the manner in which they had treated a fracture-dislocation of the upper end of his humerus. The case was heard at Cardiff assizes in 1905, when the jury disagreed. A new trial took place in the King's Bench Division, London, in 1906, when the jury awarded the plaintiff £100 damages and mulcted the defendants in costs with the damages. That these, with the costs of the defence, amounted altogether to a very large sum is shown by the fact that though part of the expenses were borne by the Medical Defence Union the defendants had to pay £3197 12*s.* 3*d.* This enormous fine was the penalty which the defendants had to pay for having treated the patient in a manner approved by a number of eminent surgeons who testified to that effect at the trials of the case. A liberal response was made to the appeal, many of the subscriptions coming from colonial practitioners and practitioners resident abroad.

The Fund was formally closed on July 31st, 1908. Since that date a few additional subscriptions have been received and the gross amount of the Fund, with interest, is now £1788 11*s.* 6*d.* All the details of the subscriptions have been published, lists appearing from time to time in THE LANCET and the *British Medical Journal*. The amounts of individual subscriptions have varied from £10 10*s.* to 2*s.* 6*d.* An analysis of the subscriptions appears in the appended statement of accounts. 1663 subscriptions were received from individuals, while 29 medical societies and 14 branches or divisions of the British Medical Association sent subscriptions from their general funds. To the honorary secretaries of these bodies Mr. Sheen wishes us to express his sincere thanks for their valuable support. The expenses of collecting the Fund were £176 8*s.* 9*d.* A great amount of correspondence was involved, necessitating much circularising, stamps, clerical assistance, typewriting, and printing. Also there was some expense in preparing the "protest" which was signed by foreign surgeons. The net amount to be handed over is £1612 2*s.* 9*d.*, so that each of the two gentlemen concerned will be reimbursed to the extent of half of his expenditure. The result cannot be regarded as otherwise than satisfactory. The medical profession is not a rich one. The enormous mass of correspondence which has come to hand shows a feeling of universal sympathy with the two gentlemen concerned and approval of the methods of treatment they employed. Many letters of sympathy have been received from those who regret their inability to contribute.

THE PRESENTATION.

The presentation of the Fund will be made at Cardiff on June 4th next by M. J. Lucas-Championnière, President of the International Surgical Society. M. Lucas-Championnière will on that day give an address under the auspices of the Cardiff Medical Society on the Modern Treatment of Fractures. To this address, besides the local members of the medical profession, all subscribers to the Fund will be invited. In the evening a dinner will be given, in the course of which the presentation will be made. No more appropriate member of our profession could be chosen to make the presentation than M. Lucas-Championnière, not only because of his position as President of the International Surgical Society but because he is the pioneer of the present rational treatment of fractures. It was the carrying out of the methods of treatment advocated and practised by M. Lucas-Championnière that helped to involve Mr. Lynn Thomas and Mr. Skyrme in litigation. The sympathy shown by M. Lucas-Championnière and his approval of the methods employed have been undoubted from the first, and his opinion was expressed in no uncertain terms in an article which he contributed to the *British Medical Journal* on March 28th, 1908. The visit of so distinguished a surgeon to Cardiff is a matter of congratulation, and it is hoped that members of the profession will unite in large numbers to give him a cordial welcome and express in every way possible their appreciation of his visit. His reception will be of a civic character, and he will be the guest of the Lord Mayor.

THE STATEMENT OF RECEIPTS AND EXPENDITURE.

The Honorary Secretary's audited statement of receipts and expenditure is as follows:—

Receipts.

		£	*s.*	*d.*
To 974	Subscriptions received by Honorary Secretary direct	1365	14	0
,, 550	Subscriptions received through Honorary Secretaries of Branches and Divisions of the British Medical Association	166	9	0
,, 139	Subscriptions received through Honorary Secretaries of Medical Societies	37	12	0
,, 14	Subscriptions from General Funds of Branches or Divisions of the British Medical Association ...	65	8	0
,, 29	Subscriptions from General Funds of Medical Societies	113	12	6
,, 3	Subscriptions from Hospital Staffs	11	19	0
,,	"Some Indian Sympathisers"	1	1	0
,,	Interest received from Bank Deposit	26	16	0
		£1788	11	6

Expenditure.

		£	*s.*	*d.*
By	Printing and Stationery	64	5	9
,,	Stamps	61	3	10
,,	Incidentals	4	5	11
,,	Clerical work	44	2	7
,,	Expenses of Circulars, Western Australian Branch of the British Medical Association	1	9	8
,,	Translation of "Protest"	1	1	0
		176	8	9
,,	Balance at Bankers	1612	2	9
		£1788	11	6

I have examined the above account with the Hon. Secretary's books, vouchers, &c., and certify it to be correct.
Cardiff, May 12th, 1909. R. H. MARCH, F.C.A.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on May 13th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

Those gentlemen who had been elected as Fellows of the College at the previous Comitia were admitted: John Edward Squire, C.B., M.D. Lond.; Theodore Stacey Wilson, M.D. Edin.; Charles John Macalister, M.D. Edin.; George Harold Arthur Comyns Berkeley, M.B. Camb.; Robert Oswald Moon, M.D. Oxon.; Clive Riviere, M.D. Lond.; Oliver Key Williamson, M.D. Camb.; Francis Arthur Bainbridge, M.D. Camb.; John Shields Fairbairn, M.B. Oxon.; Otto Fritz Frankau Grünbaum, M.D. Camb.; Joseph Shaw Bolton, M.D. Lond.; Charles Bolton, M.D. Lond.; and Llewellyn Caractacus Powell Phillips, M.D. Camb.

A communication was received from Dr. E. Liveing resigning his office of Registrar and the membership of the Committee of Management.

The PRESIDENT regretted that there was no option but to accept the resignation and expressed in laudatory terms the great services that Dr. Liveing had rendered to the College.

The following motion was then proposed by Sir W. S. CHURCH, seconded by Dr. NORMAN MOORE, and carried unanimously:—

That the College receives with much regret the resignation of Dr. E. Liveing of the office of Registrar, and in accepting his resignation takes the opportunity of recording on its minutes the faithful and efficient manner in which he has for so many years carried out the duties of his office, his constant courtesy to the Fellows, and his unwearied watchfulness over the interest and dignity of the College.

The PRESIDENT then dissolved the Comitia.

WOODHALL SPA: AN INTERESTING MEDICAL OCCASION.

OF late years the various English health resorts have sought to bring their attractions more prominently before the notice of the medical profession, with the obvious view of inducing its members to remember that this country possesses spas and watering-places of its own before deciding to send their patients to take the waters at one or other of the Continental resorts. The directors of several of the English spas have wisely realised that the best way to impress the merits claimed for their establishments upon the minds of medical practitioners is to invite them to come and see for themselves the places to which they are asked to send their patients. During the last week-end a large party of medical men from London and the provinces, which included our representative, were given such an opportunity of inspecting the baths and surroundings of Woodhall Spa, where they enjoyed the hospitality of the Woodhall Spa Company at its Victoria Hotel, which adjoins the pump-room and bath-houses. At the same time a similar party was entertained by the proprietors of the Royal Hotel, all the visitors having been conveyed from London or the North as the guests of the Great Northern Railway Company. The journey lies through some of the flattest country in England, for Woodhall is situated midway between Boston and Lincoln. The London party, which left King's Cross at 4 o'clock, arrived at the Spa in time for an excellent dinner, which was served at the Victoria Hotel at 7.30. The directors of the Woodhall Spa Company were present, and after dinner Colonel Hastings Brook, their chairman, Mr. Hugh Webster, their managing director, and Dr. Lionel C. E. Calthrop, the medical superintendent of the Spa, made short speeches to welcome their guests and to inform them of the arrangements made for their entertainment, a courtesy which Dr. W. S. A. Griffith acknowledged on behalf of the company. On Sunday morning the bath-house was thrown open to inspection in every detail and the different hydro-therapeutic and electrical treatments for which appliances have been provided were demonstrated. The Alexandra Hospital was also visited. This is a comfortable hostel having some 30 beds for the reception of needy patients who are enabled on the recommendation of a governor and a small weekly payment to obtain the advantages of the various baths. The afternoon was spent pleasantly in the wooded grounds of the hotel or on the golf links, which were kindly thrown open to the visitors by the golf club, or in motor drives to neighbouring places of interest. The majority of the party returned home on Sunday evening, though some stopped on until the following morning. The visit was made at a time when the natural attractions of Woodhall Spa were enhanced by the diverse spring colouring of its foliage which shone under an unexpectedly brilliant sun and blue sky on a day when the South of England was grumbling at the unseasonable cold.

The enterprise of the directors in organising this medical gathering should bring its reward, for few of the party could have left Woodhall Spa without realising the advantages which it offers to the invalid. In the first place, it can be reached in three hours from King's Cross. In the second place, it is obvious that the needs and comfort of visitors coming for courses of treatment have been made the primary care of the directors of the Spa. They welcome healthy visitors in their hotel and cater for them liberally, but they have no desire to make the Spa a holiday resort in which invalids are certainly received but are looked upon as rather a nuisance by the able-bodied young people for whom the hotel is made the centre of a constant round of sometimes noisy amusements. On the contrary, the Victoria Hotel is not only well found but is restful in every sense, in its equipment, its decoration, and its conduct. It stands in wooded grounds of nearly 100 acres, laid out with dry paths and sheltered seats and bounded by a stately plantation of well-grown pine trees. And the medical superintendent assured our representative that the regimen of individual patients is made a serious study by the hotel management, such diet being provided for them as their medical advisers may prescribe—an arrangement which we commend as a great feature of the establishment. It should be added that the sanitary appliances of the hotel are excellent. Fig. 1 is from a photograph taken in the hotel grounds.

The Spa buildings stand in the hotel grounds and include the pump-room, the various bath-rooms, apartments for the application of other physical methods of treatment, an electric-light generating plant, and the machinery for raising the water by means of a great windlass and cask from a depth of 512 feet into storage and heating tanks, whence it is distributed to the baths. There is also a plant for evaporating the water into a "Mutterlauge" (mother-lye) which is used for "strengthening" baths and douches. The water itself has several peculiarities. Its halide content is so exceptionally high as to place it in the front rank of the iodised waters of Europe. Professor Wanklyn's analysis of the Woodhall "bromo-iodine" water is as follows:—

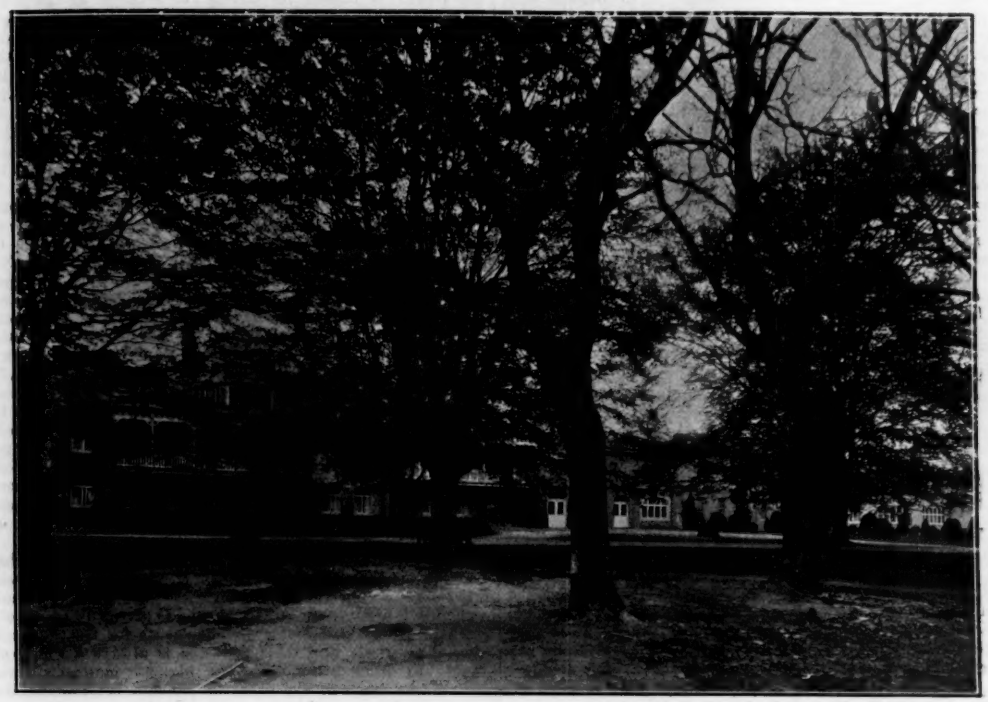
Chloride of sodium	1330·00	grains per gallon.
Chloride of calcium	111·00	,, ,,
Chloride of magnesium ...	91·00	,, ,,
Carbonate of soda	10·00	,, ,,
Sulphate of soda	0·30	,, ,,
Nitrate of soda	0·55	,, ,,
Free iodine	0·20	,, ,,
Iodine (as iodate)	0·20	,, ,,
Iodine (as iodide)	0·40	,, ,,
Bromine (as bromide) ...	3·40	,, ,,
Peroxide of iron	Traces.	

Professor Wanklyn, in his report, states: "So far as I am aware this is the first instance in which free iodine has been found in appreciable quantity in a natural water." The bromine and iodine present are attributed to the subterranean remains of giant seaweeds on the floor of an ancient shallow sea. The "colour" is clear and we may best describe the taste as that of "dilute sea water."

There is no known surface spring of the water, which was discovered accidentally in 1811 during the experimental sinking of a shaft for coal. The mineral was not found in sufficient quantity to repay working, but the quality of the water which flooded the shaft was speedily recognised, and by successive steps the conveniences for its medicinal use have been developed with the growing reputation and prosperity of the Spa. The water permeates through a spongy stratum of rock and is collected by a series of large "adits" or tunnels radiating from the well at a depth of some 500 feet. The water is both administered internally and applied by means of hot and cold baths, under-current, massage, and vaginal douche-baths, throat or nasal spray douches, and in other manners, for which adequate equipment has been provided, whilst the building also contains rooms for massage, the Dowsing and various light baths, artificial Nauheim baths, and the usual forms of electrical treatment. Vaccine and serum treatment controlled by opsonic tests are also available outside the Spa. The Royal Hotel has recently sunk a new well into similar water and has fitted up a complete bath-house under the medical charge of Mr. H. W. Gwyn, and the party entertained by its managers spoke highly of the hotel's comfort and accommodation.

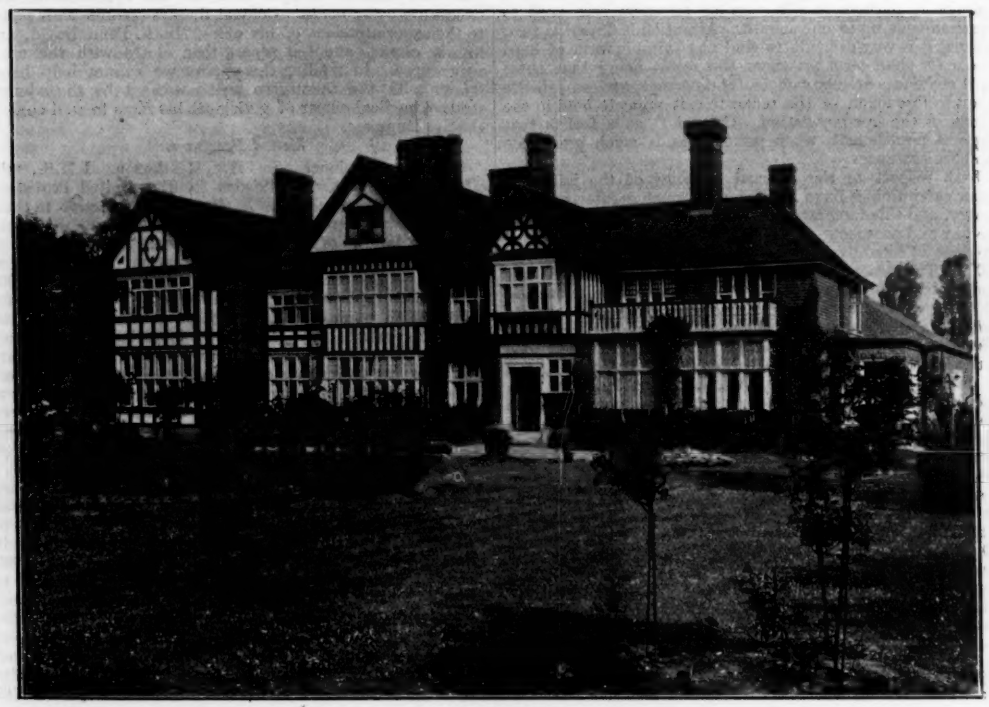
We are not concerned to discuss at present the medicinal efficiency of the water at Woodhall Spa, but it is obvious that a large range of diseases from arthritis to eczema may be treated by it on well-tried and orthodox therapeutic principles. Whatever be the direct medicinal action of natural mineral waters—and that is a point upon which, as we are aware, opinions widely differ—there is general agreement that a regular regimen and a quiet life spent largely in open air amongst reposeful surroundings remote from the cares of business and the exactions of "pleasure," are factors of indisputable value in the treatment of chronic disease, and these factors Woodhall Spa affords. Even sceptics must sometimes have seen such marked local improvement in cases of neuritis or osteo-arthritis following a course of mineral baths as to make them acknowledge that there may be "something in the water" after all. At Woodhall Spa, as the analysis proves, there is a very remarkable "something" in the water, in the form of natural salts and a free element which are generally acknowledged to exercise potent therapeutic effects. The directors of Woodhall Spa have certainly a water of

FIG. 1.



In the grounds of the Victoria Hotel, Woodhall Spa.

FIG. 2.



Clevedon Club, adjoining the Golf Links, Woodhall Spa.

exceptional quality at their disposal, and they have had the sense to realise what many English spas have been too long in realising—that if their "cure-house" is to compete with more famous Continental rivals the patient must be the central figure in their community, and the life of the place must be subordinated to the requirements laid down by his physician for his welfare. But the visitors are not all invalids at Woodhall, and life need not be dull for the holiday maker who only needs restful recreation. For him there have been provided tennis courts, a cricket ground, a croquet ground, a band-stand, and above all these a well-kept golf links with sand and heather bunkers among pine and larch woods that form a background. Near the golf club's quarters is the Clevedon club-house, of which we are able to give an illustration. The club of which Fig. 2 is an illustration is a social club for which visitors are eligible. But of all its attractions Woodhall Spa takes its waters the most seriously, and its visitors in search of relief will be well advised to follow its example.

In conclusion, we wish to express our thanks to Dr. Calthrop and his fellow directors for the hospitality and courtesy which was extended to our representative during a very pleasant and interesting visit.

SANITATION IN INDIA.

V.[1]—JAILS (*continued*).

North-West Frontier Province.

THE administration report of the jails of the North-West Frontier Province for 1907 is furnished by Lieutenant-Colonel G. W. P. Dennys, I.M.S., the officiating administrative officer of the province. The judicial statistics show that the jail population remaining on Dec. 31st was 1307, or 144 more than on the corresponding date of 1906. It is very satisfactory to note that the reformatory school at Delhi has been made available for the reception of youthful offenders of the North-West Frontier Province, so that it is to be hoped that in the future such prisoners will not be sent to jail, where the baneful influence of prison life has the effect of doing them more harm than good. A point which is well brought out in the report is that with respect to the length of sentence of the prisoners. It is shown that the percentage is highest in the case of prisoners sentenced to imprisonment up to one month. Attention is drawn to this, because it is very difficult to find any suitable form of hard labour for short-term prisoners, the result being that these short sentences are not sufficiently deterrent, and so jail life is apt to lose much of the terror that it ought to hold in the minds of the free population. Colonel Dennys insists that corporal punishment, when permissible, is much preferable to short sentences.

With respect to the internal economy of the jails, the upper subordinates have worked with much greater zeal and energy, and this fact is no doubt due to the improvement in the pay and prospects of jailers and assistant jailers of the province effected by the reconstitution of the jail service in 1907. The scales of pay and grade sanctioned for the Punjab have been introduced into the province, with the addition of a frontier allowance to jailers but not to assistant jailers, as it was thought at the time that educated men of respectable families would be induced to take service in the jail department for the prospects of being promoted to jailerships. This expectation, however, has not been realised, so that the addition of frontier allowances will most probably have to be granted to assistant jailers as well as to the jailers.

With respect to the vital statistics of the jails, Colonel Dennys notes that the condition as regards overcrowding is satisfactory. This diminution of overcrowding is doubtless due to the wise system introduced by this officer in 1906 of making superintendents always keep in hand a list of prisoners whose transfers have been sanctioned, but who would only be despatched in the event of overcrowding seeming imminent by a rapid rise in the jail population. He points out with reference to this measure that a larger amount of extra work is thrown on the jail staff by the constant preparation of long lists of prisoners for transfer from one jail to another, whilst also great inconvenience to the police is caused in having to arrange at frequent intervals for the necessary guards to accompany the prisoners on transfer, which are often required at short notice, whilst such transfers also entail much expense. For the money thus spent a great deal of the extra jail accommodation required in the province could have been provided. The remedy, of course, lies in increasing the accommodation in the jails; such increase has been sanctioned by the Chief Commissioner of the province in the case of the Dera Ismail Khan jail, and it is to be hoped that this sanction will be extended to the Bannu and Kohat jails in the future.

The supply of drinking water at all the jails was ample and good, but might be made still more satisfactory in some of the jails if pipe water were introduced in the place of surface wells, as at Dera Ismail Khan and Bannu. The admissions into hospital of average strength were 1242 per 1000, the daily average sick 35, and deaths from all causes 17·47, as contrasted with the figures for 1906, 1485, 35, and 23·47 respectively. The health of the prisoners on the whole was therefore better than in the previous year, although the death-rate in Dera Ismail Khan of 29·65 per 1000 was very heavy. With respect to the different diseases, the admissions for malarial fevers fell from 927 per 1000 in 1906 to 489 in 1907. No deaths from malaria occurred. Quinine was issued to all convicted prisoners in 15-grain doses of the liquid solution every fifth and sixth day from July 1st to the end of the fever season. This issue conferred a considerable immunity against malaria, which, however, is not perceptible until after the first month of treatment.

There were 11 admissions for tubercle with four deaths. Colonel Dennys wisely advises, if possible, to release prisoners suffering from tubercle of the lung on the ground of bodily infirmity, under paragraph 535 of the Jail Manual, as there are no satisfactory arrangements for treating such cases in the jails, and their presence is always a source of danger to other prisoners. The highest mortality from disease was shown in the cases of pneumonia admitted, the case mortality being 25 per cent.; this high mortality was only to be expected after the severe malaria prevalent in the autumn of 1906. Diarrhœa gave an unusually heavy and excessive number of admissions over those of the two previous years, and inquiries as to the causation of this excess are being made. Colonel Dennys records high praise to the superintendent of his office, Mr. E. Penn David, and to his clerks, and the report then closes with the usual appendices. In reading this report we cannot help being struck with the faculty so well possessed by the administrative medical officer of giving all his facts in well chosen, concise language.

United Provinces.

Lieutenant-Colonel S. H. Henderson, I.M.S., the officiating Inspector of Prisons for the United Provinces, furnishes the report for 1907. The jail population in these provinces was normal until late in the year, when the complete failure of the *rabi* crops had its effect, and in certain districts the under trial population began rapidly to rise at the end of the year, so that an increase of 1363 prisoners for the year 1907 resulted over the number for 1906. With regard to the prisoners generally, it is satisfactory to note that the number of juveniles under 16 years was 154, as compared with 191 in 1906. This satisfactory reduction in their number is probably due to the more summary punishment by whipping, but also may be owing to the increasing disinclination of magistrates to send children to jail. These juveniles are not allowed to mix with ordinary prisoners; they are taught reading, writing, and arithmetic, and are drilled regularly in addition to ordinary convict labour, all of which proceedings are very wise. With regard to the treatment of non-habitual youths between the ages of 16 and 20, they have always been a very difficult problem to deal with. They can be kept separate at night in cubicles in special wards, but it is found practically impossible to prevent their coming into contact with other persons only too ready to influence them for evil during the day. Lieutenant-Colonel Mactaggart, the predecessor of Lieutenant-Colonel Henderson, wisely suggested, as at least a partial remedy, the opening of a special juvenile jail for boys of this class, and recommended the use of the old reformatory school building at Bareilly, not being in use, for conversion into such a jail. This

[1] Nos. I., II., III., and IV. were published in THE LANCET of April 10th (p. 1067) and 24th (p. 1199), and May 1st (p. 1269) and 15th (p. 1412), respectively.

scheme, which has been sanctioned by the Lieutenant-Governor, would seem to answer admirably the purpose involved, for by it the accommodation is sufficient, hard work and rigid discipline can be insisted on, as it is near the Bareilly central jail, and so can be efficiently supervised by the superintendent of that jail; each boy will be taught, according to his caste and previous occupation, a handicraft which he can follow on his release. Their physical development will be favoured by the drill, and the teachers and warders will be specially selected. The Inspector-General hopes that by these means permanent good results will accrue to the youths concerned. As regards the numbers admitted, there was a slight increase in those above 60 years of age, due no doubt to the scarcity prevailing during 1907, which caused some of those who could not support themselves to resort to petty thefts. Many of these old prisoners were in truth more fit subjects for admission to a poor house than to a jail. The progressive rise in the number of habituals in 1906 again continued in 1907; this is probably due to the prevailing scarcity. The remedy would seem to be to increase the deterrent effect of jail life by making it as unpleasant as possible by more frequent combination of solitary sentences with rigorous imprisonment. Cubicle barracks, which are still wanting in many of the jails of this province, are very desirable.

With respect to the special industries carried on in these jails, these embrace moonji matting, blanket weaving—the latter in the Bareilly jail being probably the exciting cause of an outbreak of anthrax, as on its occurrence all wool was ordered to be boiled and treated with lime, when no more cases occurred—carpet and durrie weaving, tent making, basket making, cloth weaving, oil pressing, tile making, printing, carpenters' and blacksmiths' work, with building operations. All the jail factories were worked at a profit.

Respecting the vital statistics of these jails, there was not during 1907 much difference observable from those of 1906. The rates of admissions per 1000, of sick, and of deaths were for 1907, 603·0, 28·7, and 15·0, as compared with 602·7, 26·5, and 16·5 for 1906. As regards the chief diseases, we note that a very fatal epidemic of influenza with pneumonia occurred in the Agra jail, there being 45 admissions with ten deaths, which is a very high rate, whilst in the whole province there were 278 admissions with 80 deaths from pneumonia. At Lucknow jail there was a prevalence of cellulitis, the primary cause of which was never satisfactorily made out. Special precautions were taken in obtaining dry earth for the latrines and other purposes, and under these precautions the disease began gradually to disappear. The patients were also isolated and thorough disinfection of all clothing by steam was arranged for. An epidemic of beri-beri broke out in the Basti Central Jail, the cause of which was also not discovered; the jail is an excellent one, with no overcrowding, and in very good sanitary condition. The use of rice was stopped early in October and is not likely to have caused the epidemic, which began later. This disease was new to the jails in that province. The symptoms were chiefly œdema of the feet and legs, dilatation and irregular action of the heart, pains in the leg muscles, and loss of knee reflex. The usual atrophic symptoms were absent. Acute cardiac failure accounted for the fatal cases. Although the opinion is stated that rice was not the cause of the disease as it was stopped early in October, yet there seems to have been one case at least of the disease early in September before the rice rations were abolished, so that this opinion is not altogether conclusive against such a cause. With respect to malarial fever, steps have been taken to prevent mosquitoes breeding in the jails, but these are nullified in many cases by the proximity of bazaars, where they breed freely. The Inspector-General thinks the more systematic prophylactic use of quinine in the unhealthy season of the year might be more freely tried in some of the unhealthy jails of the province with good effect. The report concludes with the usual appendices. Colonel Henderson also gratefully acknowledges the excellent work done by his head assistant, and by his head and other clerks.

Province of Eastern Bengal and Assam.

The report of the jail administration for Eastern Bengal and Assam for 1907 is furnished by the Inspector-General of Prisons, Lieutenant-Colonel R. R. Weir, I.M.S. He gives the following details. The total number of prisoners admitted during the year was 36,382, against 40,295 in 1906, the daily average being 8098 against 7726 in the preceding year. This increase of 372 is attributed to longer average of length of sentences, as generally there has been a decrease in crime. We again notice that there is no provision in any jail in the province for the special and complete separation of juveniles from the general jail population; it is to be hoped that the authorities concerned will awaken to the desirability of this procedure for the sake of the future of these juveniles. The report gives all particulars regarding sex, religion, previous occupation, education, nationality, and terms and nature of imprisonment. With regard to the amount of jail accommodation, overcrowding occurred in most of the jails of the province during the year, particularly in the case of those under trial; this was partially overcome by placing surplus prisoners in temporary sheds, worksheds, and verandahs.

Regarding the vital statistics for 1907, the ratio per 1000 of admissions into hospital for 1907 was 837·03, the daily average sick 35·35, and the mortality 28·40, as contrasted with 876·43, 40·14, and 27·95 for 1906. The daily average number of prisoners mentioned above was the highest for the past ten years, yet the hospital admissions were lower than in any of the preceding ten years, except those for 1904 and 1906, and that in spite of almost general overcrowding; the cases actually admitted, however, were of a severe type, judging from the rate of mortality. With respect to the nature of the diseases met with, dysentery, we are glad to see, showed a decrease; there was a rise in malarial fever—viz., 1904, against 1669 in 1906. The number of deaths, however, fell from 25 to 21. Beri-beri was reported present in four jails; there were three admissions for enteric fever, all of which ended fatally. Epidemic dropsy caused 44 admissions, with three deaths; the Inspector-General reports that segregation, with a change to a more liberal diet, effectively checked the disease. The bad effect of influenza with overcrowding was shown in the Feridpur jail, where the health was the worst since 1900. Dysentery, ague, pneumonia, and tuberculosis very greatly prevailed in this jail.

Many improvements bearing on sanitation have been carried out in 1907; thus ventilation, drainage, conservancy, water-supply, and cooking arrangements have all been bettered, and other important matters attended to, such as the clearing away of surrounding jungle from certain jails, the removal of insanitary cattlesheds, and improvement of the ground level. The report concludes with the various methods by which the prisoners were employed and the financial questions involved. The Inspector-General finally mentions with praise the work of the various superintendents, and especially draws attention to the successful management of the Barisal jail and the remarkable diminution in the sickness and mortality there, due "to the careful and unremitting supervision of Captain O. St. John Moses, I.M.S." Only those who have had charge of an Indian jail can fully appreciate what these words of praise signify. The usual statistical tables complete the report.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 21st, 1831.

CRYSTALLISED IODURET OF LEAD.

M. CAVENTOU, of Paris, has discovered the following simple method of obtaining this valuable medicine in a crystalline form. On adding any solution of lead to a solution of the hydriodate of potassa, a canary-coloured precipitate of a minutely crystalline texture is thrown down. This precipitate has hitherto been considered as insoluble in water. M. Caventou has found that it is abundantly dissolved in hot water, and from this solution it crystallises on cooling in crystals of considerable size and of the utmost beauty. We have, on repeating this process, been astonished at the singular splendour of the product thus obtained. It so strongly resembles highly polished gold, that several persons have mistaken it for that metal. No satisfactory analysis has yet been made of the respective quantities of iodine and lead in this compound. By calculation, it is believed to be composed of iodine 100, lead 85·5.

M. Caventou's improvement is described in the *Lancette Française*.

The clinical experiments now performing by MM. Cottereau and Verdet de Lisle, at the Hopital de la Pitie, appear to indicate, that of all the preparations of iodine, this possesses, in the highest degree, the property of resolving scrofulous and scirrhous engorgements: at least this may be inferred from the remarkable and rapid improvement experienced by the patients in whom it has been tried, and who had all been previously using iodine and the hydriodate of potassa, both internally and externally, without success. M. Guernsent has also found it of the most signal advantage in several cases at the Hôpital des Enfans.—*Journal Hebdomadaire.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8240 births and 4322 deaths were registered during the week ending May 15th. The annual rate of mortality in these towns, which had declined in the eight preceding weeks from 22·1 to 14·1, further declined to 13·7 in the week under notice. During the first six weeks of the current quarter the death-rate in these towns averaged 15·4 per 1000; the rate in London during the same period did not exceed 14·9. The lowest recorded annual death-rates in these towns last week were 5·9 in Handsworth, 7·2 in Bournemouth, 7·5 in East Ham, and 8·0 in Northampton; the rates in the other towns ranged upwards, however, to 22·9 in Oldham, 23·3 in Bootle, 24·1 in Coventry, and 24·7 in Wigan. In London the recorded death-rate during the week did not exceed 13·1 per 1000. The 4322 deaths from all causes in the 76 towns last week showed a further decline of 140 from the numbers returned in recent weeks, and included 394 which were referred to the principal epidemic diseases, against numbers declining from 593 to 445 in the five preceding weeks; of these 394 deaths, 170 resulted from measles, 95 from whooping-cough, 44 from scarlet fever, 37 from diarrhœa, 29 from diphtheria, and 19 from "fever" (principally enteric), but not one from small-pox. The 394 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·2 per 1000, against rates declining from 1·9 to 1·4 in the five preceding weeks. No death from any of these epidemic diseases was registered last week in Gateshead, Plymouth, Northampton, Rochdale, York, or in eight other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·2 in in Salford, 4·5 in Bootle, 5·2 in Wigan, and 7·5 in Wolverhampton. The fatal cases of measles in the 76 towns, which had steadily declined in the eight preceding weeks from 438 to 198, further fell last week to 170, but caused death-rates ranging upwards to 2·2 per 1000 in Warrington, 3·0 in Bootle, 3·5 in Wigan, and 7·5 in Wolverhampton. The deaths from whooping-cough, which had been 131, 113, and 109 in the three previous weeks, further declined last week to 95, the highest death-rates from this disease being 1·3 in Willesden and Coventry, 1·5 in Middlesbrough, and 1·6 in St. Helens and in Swansea. The 44 fatal cases of scarlet fever showed a slight increase upon recent weekly numbers, and caused the highest death-rates, 1·1 in Blackburn and 1·3 in Merthyr Tydfil. The 37 deaths attributed to diarrhœa were fewer by five than the number in the previous week. The 29 fatal cases of diphtheria were considerably below the number returned in any previous week of this year, and showed no marked excess in any of the towns. The 19 deaths from "fever" showed an increase of 12 upon the low number in the previous week, and included three in Hanley, equal to an annual rate of 2·3 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased in the ten preceding weeks from 2873 to 2175, had further declined to 2173 at the end of last week; 313 new cases were, however, admitted to these hospitals during the week, against 265, 305, and 309 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had declined from 341 to 212 in the four preceding weeks, were 222 last week, and 33 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza, which had been 45, 32, and 16 in the three preceding weeks, rose again to 20 in the week under notice. The causes of 26, or 0·6 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 55 other smaller towns; the 26 uncertified causes of death included three each in Birmingham, Sunderland, and Gateshead, and two each in Liverpool, Sheffield, and South Shields.

HEALTH OF GLASGOW AND EDINBURGH.

The annual rate of mortality in Glasgow, which had been equal to 19·3, 17·4, 18·1, and 16·3 per 1000 in the four preceding weeks, further declined to 15·2 in the week ending May 15th. During the first six weeks of the current quarter the death-rate averaged 17·7 per 1000, whereas the mean rate during the same period did not exceed 14·9 in London and 16·6 in Edinburgh. The 254 deaths from all causes in Glasgow last week showed a decline of 19 from the number in the previous week, and included 23 which were referred to the principal epidemic diseases, and were fewer by 19 than those returned in the preceding week. These 23 deaths were equal to an annual rate of 1·4 per 1000. The eight fatal cases of whooping-cough showed a marked decline from the numbers in recent weeks. One death from cerebro-spinal meningitis was registered. The deaths referred to diseases of the respiratory organs, which had declined in the four preceding weeks from 71 to 50, rose again to 55 in the week under notice. The 154 deaths registered during the week included 78, or 30·7 per cent., which were recorded in public institutions, against 92 and 91 in the two previous weeks. The causes of 13, or 5·1 per cent., of the deaths registered last week were unspecified or uncertified, whereas in London the causes of all but one of the 1216 deaths registered last week were duly certified. In Edinburgh the annual rate of mortality, which had been equal to 18·5, 17·2, and 16·3 per 1000 in the three preceding weeks, further declined to 14·2 in the week ending May 15th. During the first six weeks of the current quarter the death-rate averaged 16·6 per 1000, the mean rate during the same period in Glasgow being equal to 17·7. The 97 deaths from all causes last week in Edinburgh showed a further decline of 14 from the numbers in recent weeks, and included but four which resulted from the principal epidemic diseases, all of which were fatal cases of whooping-cough. These four deaths were equal to an annual rate of 0·6 per 1000, against 2·6 and 1·6, the rates from these principal epidemic diseases in the two preceding weeks. The 14 deaths referred to diseases of the respiratory organs corresponded with the number in the previous week. Five of the deaths in the week were the result of violence. Of the 97 deaths registered during the week, 37, or 38·2 per cent., occurred, in public institutions, against 27 and 44 in the two preceding weeks. The causes of seven, or 7·2 per cent., of the deaths registered during the week were not certified; while in Glasgow the proportion of uncertified causes did not exceed 5·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had steadily declined in the four preceding weeks from 27·7 to 18·8 per 1000, further fell to 18·5 in the week ending May 15th. During the first six weeks of the current quarter the death-rate averaged 22·8 per 1000, whereas the mean rate during the same period did not exceed 14·9 in London and 16·6 in Edinburgh. The 141 deaths of Dublin residents from all causes during the week under notice showed a further decline of three from the numbers returned in recent weeks, and included 11 which were referred to the principal epidemic diseases, against 16 and eight in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·4 per 1000, the death-rate from these principal epidemic diseases in the same week being equal to 1·2 in London and 0·6 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week, five resulted from whooping-cough, three from measles, two from "fever," and one from diarrhœa, but not one either from scarlet fever, diphtheria,

or small-pox The fatal cases of whooping-cough, measles, and "fever" exceeded the numbers in the previous week. The 141 deaths registered last week included 21 of infants under one year of age and 51 of persons aged upwards of 60 years; the deaths of elderly persons considerably exceeded the number in the previous week. Six inquest cases and two deaths from violence were registered last week, and 53, or 37·6 per cent., of the deaths occurred in public institutions. The causes of four, or 2·8 per cent., of the deaths in Dublin during the week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all but one of the 1216 registered deaths were duly certified, while in Edinburgh the proportion of uncertified causes was equal to 7·2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: A. C. Bean to the *Pembroke*, additional, for disposal; J. Martin to the *Magnificent;* and H. L. Geoghegan to the Royal Marine Infirmary, Deal.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel John Carmichael is placed on retired pay (dated May 5th, 1909).

Colonel H. J. R. Moberly has been appointed officiating principal medical officer, Presidency and Assam Brigades; and Lieutenant-Colonel F. P. Nichols has been appointed to the command of the Station Hospital, Jullundur.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the following officer: Colonel David Wilkie (dated April 2nd, 1909).

MILITIA.

Royal Army Medical Corps.

Captain William Fletcher, D.S.O., resigns his commission (dated Sept. 20th, 1908).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Lowland Mounted Brigade Field Ambulance: The promotion to a Lieutenant-Colonelcy of Major Robert T. Halliday and to a Majority of Captain Hugh W. Thomson bears date April 1st, 1908.

2nd London (City of London) Field Ambulance: Percy Cecil Parker Ingram to be Lieutenant (dated March 30th, 1909). Haldinstein David Davis to be Lieutenant (dated April 16th, 1909).

4th Scottish General Hospital: Lieutenant-Colonel (Honorary Surgeon-Colonel, Retired List, Volunteers) Alexander Napier, from the Mobilisation List, to be Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel (dated March 22nd, 1909).

1st Home Counties Field Ambulance: Captain William J. Woodman resigns his commission (dated Feb. 11th, 1909).

4th London Field Ambulance: William Cowie to be Lieutenant (dated April 7th, 1909).

3rd Western General Hospital: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel David Hepburn, from the 2nd Volunteer Battalion, The Welsh Regiment, to be Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Ewen John Maclean to be Major (dated March 11th, 1909).

Attached to Units other than Medical Units.—Lieutenant George McKellar to be Captain (dated April 1st, 1908). Major John F. Tabb to be Lieutenant-Colonel (dated April 4th, 1908). Captain Herman Stedman to be Major (dated Nov. 23rd, 1908).

For attachment to Units other than Medical Units.—Robert Bruce to be Lieutenant (dated March 17th, 1909). Alfred Edward Arthur Carver to be Lieutenant (dated March 30th, 1909). Herbert Pye-Smith Devitt to be Lieutenant (dated March 30th, 1909). Donald Sage Sutherland to be Lieutenant (dated March 30th, 1909). Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Edward Morton Garstang, from the 2nd Volunteer Battalion, The Loyal North Lancashire Regiment, to be Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Supernumerary Captain Frederick Lace, from the 4th Battalion, The Prince Albert's (Somersetshire Light Infantry), to be Major (dated March 1st, 1909). James McGlashan to be Lieutenant (dated March 31st, 1909). Frederick William Higgs to be Lieutenant (dated April 1st, 1909). James Alexander Raeburn to be Lieutenant (dated April 13th, 1909). Robert Vernon Giraud Monckton to be Lieutenant (dated April 16th, 1909).

Officers Training Corps.

The undermentioned officer to be Captain:—Edinburgh University Contingent, Senior Division: Lieutenant John M. Darling (dated July 17th, 1908).

EXAMINATION FOR SURGEONS IN THE ROYAL NAVY.

At the entrance examination for Surgeons in the Royal Navy, completed on May 14th, 32 candidates presented themselves for 15 vacancies. Two gentlemen withdrew, eight were rejected for physical defects, and of the remaining 22 18 obtained qualifying marks. The following is the list of successful candidates:—

	Marks.		Marks.
K. H. Hole	2151	J. S. Orwin	1685
G. F. Syms	1963	J. Barrett	1645
A. A. Sanders	1933	H. W. Nichols	1638
M. P. Fitzgerald	1927	R. P. M. Roberts	1505
J. Hadwen	1914	M. G. Malcolm	1496
H. F. Briggs	1900	H. C. Devas	1420
G. A. Jackson	1734	H. Burns	1406
W. Miller	1710		

The above-named gentlemen will undergo a course of instruction in special subjects at Haslar Hospital, on the completion of which another examination will be held, and prizes consisting of a gold medal, a silver medal, and three Navy regulation pocket-cases awarded. The final position on the list will be determined by the combined results of the London and Haslar examinations.

THE TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force who have been duly recommended for the same under the terms of the Royal Warrant dated August 17th, 1908:—

London District: Royal Army Medical Corps: Major John Frederic Tabb.

Scottish Command: Royal Army Medical Corps: Colonel John Scott Riddell, M.V.O.

Western Command: Royal Army Medical Corps: Sanitary Service: Lieutenant-Colonel Nathaniel Edward Roberts.

THE TENURE OF ROYAL ARMY MEDICAL CORPS APPOINTMENTS.

The May issue of the *Journal of the Royal Army Medical Corps* contains a communication from the Director-General of the Army Medical Service relating to the tenure of Royal Army Medical Corps appointments. Some of the appointments may now be held for three years with a possible extension to five years, and some for four years only. In a future issue of THE LANCET we hope to deal more fully with this important communication from the Director-General of the Army Medical Service, which is published for general information.

THE INCOME-TAX AND INDIAN OFFICERS.

In the House of Commons on May 13th, Mr. Smeaton asked the Chancellor of the Exchequer whether it was his intention to continue the exemptions and abatements on their small home incomes to Indian civil and military officers resident on duty in India who were in receipt of salaries from the Indian Government. Mr. Hobhouse replied that it was not intended to exempt Indian civil and military officers resident in India and receiving salaries from the Indian Government from the proposed obligations on persons resident abroad to pay full income-tax.

THE ORDER OF ST. JOHN OF JERUSALEM IN ENGLAND.

His Royal Highness the Prince of Wales has nominated Major R. J. Blackham, R.A.M.C., an Honorary Associate of the Order of St. John of Jerusalem in England.

ROYAL BRITISH NURSES' ASSOCIATION.—The annual meeting of this association will be held at 3.30 P.M. to-day, Friday, May 21st, at the Imperial Institute. H.R.H. The Princess Christian of Schleswig-Holstein has graciously signified her intention to preside.

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I cannot help thinking that your correspondents have misapprehended the intentions of the London County Council in the above matter. They write as if it were the wish of the Council to get the school children treated by the honorary staffs of the hospitals, and treated gratuitously. So far as I can discover this misrepresents entirely the view of the Council. What is desired is (1) to utilise the accommodation and equipment of the out-patient departments of the hospitals at times when these are not otherwise in use and to pay a reasonable rent for the privilege of doing so; and (2) to appoint special salaried officers to attend the school children in the accommodation thus provided. The honorary staffs of the hospitals would not be asked to undertake the work, but it certainly would be an advantage if the special paid officers could act under the supervision of members of the hospital staffs, for in that case the Council would be able to waive the question of inspection.

There is here no question of "subsidising" the hospitals; the latter simply rent out rooms at hours when they are not wanted for the ordinary out-patient work and the salaries of the special medical officers need not be paid through the hospitals at all. In any case, the principle of paid clinical assistants is no new one and is already in operation at some hospitals.

If, of course, the out-patient department of any hospital is working at such high pressure that all of its rooms are in use all day that settles the question as far as that particular institution is concerned, but this is certainly very far from being the case with those with which I am best acquainted.

The case against school Clinics seems to me very strong. If the Council is driven to adopt them it would mean setting up what are virtually a number of small children's hospitals, or, at the least, out-patient departments, all over London at great cost to the rate-payers. These would inevitably compete with the hospital out-patient departments and would draw away from them a large amount of valuable clinical material.

Observe, too, that this increased expenditure on bricks and mortar is to be undertaken in spite of the fact that the number of children in the London school area is declining; that the number of out-patients at some at least of the hospitals is also declining; and that within a year or so of the establishment of the Clinics the arrears of children needing treatment would have been worked off and the number to be dealt with weekly would have sunk to comparatively insignificant proportions. The Clinics would then have become of the nature of white elephants, and in order to justify their existence would probably start treating general medical and surgical ailments in addition to those special troubles for dealing with which they were first called into existence.

I have said nothing of the legitimate interests of the general practitioner as I do not think these are likely to suffer more under one scheme than under the other. If the Clinics are established they will certainly need to be officered by specialists and the appointments on them are likely to go to junior consultants who are not yet attached to any honorary staff. It is not probable, therefore, that any of the money to be paid for treatment at the Clinics will find its way to the practitioner. As to what is to be done in the case of those children whose parents can pay for private medical treatment there is need for discussion, but if the Council is unjust enough to treat these at the expense of the ratepayers the establishment of Clinics would only facilitate such an intention. I hope, therefore, that before it is too late the hospitals will reconsider their position and try to meet the Council half way, for if the alternative of school Clinics is adopted I feel convinced that it will be the members of the hospital staffs who, next to the ratepayers, will be the first to regret it.

I am, Sir, yours faithfully,

May 19th. ROBERT HUTCHISON.

To the Editor of THE LANCET.

SIR,—Those of us who are members of the honorary medical staffs of the metropolitan hospitals ought to owe you a debt of gratitude for opening your influential columns to a discussion of this important question. I have reason to believe that some of the hospital secretaries, as well as several members of the boards of management, are greatly tempted by the alluring bait of a little extra money—the proposed subsidies or capitation grants—to fall in with the wishes of the "Education Department of the London County Council"; and there can be little doubt that if the honorary staffs of the various hospitals do not make a firm stand our services will be still further exploited to the detriment of the general practitioners of the respective neighbourhoods. For many years I have been calling attention to the unwarrantable demands of the late "School Board" and of their successors, the "Education Department of the County Council," on the gratuitous services of the hospital staffs, and I personally have always declined to sign their official documents or to do work for which their own officers should be responsible. On the present occasion I have distinctly stated to the authorities of my hospital (1) that it is not my intention to treat any cases which may be sent to the hospital by the school nurses or inspectors which do not seem to belong to the hospital class; (2) that not being an officer of the London County Council I shall not sign their official documents or perform the duties of a sanitary or medical officer of the department; and (3) that I shall not be dictated to as to my methods of treatment by any such outside body as the London County Council. It seems that the cases of ringworm are to be sent to my department "for x ray treatment"; it so happens that I decline to treat all cases of this disease by that method—I know I am not "in the fashion"—as I get excellent results in early cases in other ways; and I regret that I cannot agree with the writer of your leading article on the Roentgen Ray Treatment of Ringworm (May 15th), that "so far as our knowledge goes, it is perfectly free from harm." I know of several cases in which extensive scarring or permanent alopecia has been the result of, and others in which the disease has not been cured by, x ray epilation—at the hands, indeed, of skilled operators.

I am, Sir, yours faithfully,

Henrietta-street, W., May 17th, 1909. PHIN. S. ABRAHAM.

THE SPREAD OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I have read with considerable interest Dr. J. G. Emanuel's address on the Spread of Tuberculosis published in THE LANCET of May 15th, p. 1369. Whilst agreeing with most of his arguments, there are two points upon which I should like his explanation. Whence does he derive his information for the following statement?—"The appearance of phthisis in places now used as health resorts, previously immune from the disease." He mentions certain places in the South of Europe where it is alleged such infection has occurred. It is of importance that no undue alarm should be caused by exaggerated statements as to the infectivity of pulmonary tuberculosis and that any opinion in regard to the spread of the disease should be fully supported by experience. Already serious inconvenience has been caused to the unfortunate sufferers from the disease by their exclusion from certain European resorts, and Dr. Emanuel's remark quoted above is likely to add to the feeling of nervousness already felt as regards the justification of allowing tuberculous individuals to mix with their fellow creatures at such resorts. As far as I am aware no such statistics as would support Dr. Emanuel's statement have yet been published; if they have I should be obliged if he would be good enough to give me the reference. The infectivity of pulmonary tuberculosis cannot be denied, but undue exaggeration of the fact is likely to lead to uncalled-for disaster to individuals.

Dr. Emanuel also remarks that the subject of his address was prompted by the knowledge of the attitude of insurance

companies in reference to a family history of tuberculosis. He says: "As soon as an individual applies to insure his life, if there is any consumption in his family he is made to pay a high premium if he be not actually refused; whereas another applicant with a good family history is passed as a first-class life, though he may be daily exposed to infection either at home through his wife and children or at his daily work." This statement requires considerable modification. At some of the large insurance companies, when there is a family history of tuberculosis, before any addition is made to the premium full inquiries are made as regards the possibility of infection, and the physique of the applicant is also duly noted. In other words, the family history is not deemed sufficient cause for an increase unless the incidence of tuberculosis is very marked. I am, Sir, yours faithfully,

Harley-street, W., May 15th, 1909. F. J. WETHERED.

To the Editor of THE LANCET.

SIR,—No one dissents nowadays from the dogma that tuberculosis is an infective disease, but there must be many who are not prepared to accept Dr. J. G. Emanuel's conclusion that heredity is a negligible factor or to admit that his interpretation of the facts is correct. Let me draw attention to the statement that there can be no sharp distinction between susceptibility and immunity because 1 in 9·5 of all persons dies from tuberculosis. In the six families quoted by him, comprising some 55 persons, 14 died from tuberculosis and some 10 more were suffering from the disease; a probable death-rate of 1 in 2·3 in tuberculous families. In other tuberculous families of which one has knowledge, three out of six, five out of eight, three out of eight, and so on, died from phthisis, showing that the families selected by Dr. Emanuel are not exceptional. On that reckoning there must be a large number of families where there is no death from tuberculosis, or only an occasional and more or less accidental one, and consequently there may be a very sharp line of distinction between susceptibility and immunity.

In order to see clearly the part which heredity plays in this disease it is necessary to differentiate the two main types of tuberculosis. The infantile form is almost entirely alimentary; if we recognise, as we must, that meningitis and general tuberculosis are merely disseminations from a primary lesion we can reckon them in the death-tables with the predominant primary lesion at each epoch. We find, then, that alimentary tuberculosis accounts for 85 per cent. of the deaths during the first five years of life, descending in mortality from the first to the fifth. It may be that heredity plays little or no part here. The second form is adolescent and respiratory. It begins to reach a formidable figure about the fifteenth year when adolescence sets in; and it is to be noted that its ravages begin in girls earlier than in boys in accordance with the earlier onset of adolescence. Now the principal feature at this period is not increased opportunities of infection, but the development of inherited physical characters upon which depends the greater or less power to resist infection. Infection, which involves other considerations beyond a chance inhalation of tubercle bacilli, may occur then or at any time within the next 20 years or so, by which time the susceptible have in great measure died out, and obviously if the chance of infection is equally distributed on the average over these years the mortality will increase from lustrum to lustrum, because the more resistant will live longer and increase the death-rate at a later age.

In adolescent tuberculosis, then, heredity assumes extreme importance; for the physical characters on which susceptibility rests admit of development and strengthening by suitable environment and training. Therefore the advice given by Dr. Emanuel that we should devote our attention to the paths of infection and neglect the predisposition of the individual, appears to me pernicious and detrimental to the individual. The association of inherited physical characters of a tuberculous parent with a proneness to tuberculosis in the offspring has hitherto been generally accepted; but if it were necessary to adduce proof of it no doubt many general practitioners have knowledge of families where for two, three, or even four generations some physical conformation has been associated with phthisis. I have myself met with one striking example extending over three generations, as well as many of parent and child. It is certainly to be hoped that while every effort is made to destroy the opportunities of infection, the mistake will not be made of holding individual predisposition too cheaply. I am, Sir, yours faithfully,

Putney, S.W., May 17th, 1909. DONALD F. SHEARER.

PROPOSED LEGISLATION IN REGARD TO THE ADMINISTRATION OF ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—Several letters have recently appeared not only in your columns but in the lay press relating to a proposed Bill for controlling the administration of anæsthetics. These letters present great divergencies of opinion on the question whether *future* registered dental practitioners should be regarded as fitted to assume the responsibilities of general anæsthesia. In deciding such a question the paramount consideration must be the safety of the patients—viz., the British public.

It is obvious, I think, that he who renders another person surgically unconscious with any anæsthetic so disturbs the vital functions that, for the time being, the life of that person is completely in his hands. The public may therefore reasonably expect that the administrator of a general anæsthetic for a dental operation shall have undergone such general training as will enable him not only to recognise and meet emergencies connected with the anæsthetic but those also which might occur from accidents in the course of the operation—e.g., slipping of a tooth or any other foreign body (such as a blade of forceps or portion of a prop) into the respiratory passages. Is the general medical and surgical training of the dentist such as to fit him to assume these responsibilities and to meet such emergencies?

Personally I am inclined to think that we should be consulting the best interests of the public by placing dental patients in the hands of the medical profession whenever it is necessary to administer a general anæsthetic. By such a line of action the reprehensible and dangerous practice of a single individual simultaneously assuming the functions of anæsthetist and operator would practically cease to exist. Apart, however, from these considerations as to the safety of the public it would, I think, be good policy for the dental profession to support a Bill which, if passed, would undoubtedly greatly restrict unregistered dental practice and might, perhaps, pave the way towards the goal desired by that profession—viz., the prohibition of this form of practice.

Why should not the proposed Bill be modified so as to prohibit the use of dangerous local anæsthetics except by registered medical and registered dental practitioners?

Such a modification would still further limit unregistered dental practice and would, I venture to think, be acceptable to the medical and dental professions.

I am, Sir, yours faithfully,

Stratford-place, W. WILLIAM HERN.

THE QUESTION OF COMPULSORY INSURANCE AGAINST SICKNESS.

To the Editor of THE LANCET.

SIR,—That the present system of medical attendance in this country can no longer be regarded as satisfactory, and that a new departure is imminent, is abundantly clear from the Poor-law Commission report and from the Chancellor of the Exchequer's speech on the Budget. The Poor-law Commission has produced a great amount of evidence to show that not only those in receipt of relief but the poorest of the labouring classes are suffering from the want of a properly organised system of medical attendance. The writers of the Minority Report have painted the picture in still more lurid colours. No attention, they say, is paid by the majority of medical officers under the Poor-law to sanitary surroundings, and practically nothing is done towards the prevention of disease. "In too many unions, it is clear, outdoor medical relief begins and ends with a bottle of medicine." The writers of the Minority Report are probably most intimately acquainted with medical practice in London, but so far as the country and provincial towns are concerned I can testify from long experience in practice in

different parts of the kingdom that the picture is overdrawn. In practically every town and village in England there are Poor-law medical officers and others practising among the poor who have been doing their utmost for the prevention of disease. At the same time, it cannot be denied that in the Minority Report there is much that is true. Nor can it in present circumstances be otherwise. The conditions of medical attendance are such that adequate treatment and attention is practically impossible. Poor-law medical officers are, as a rule, underpaid. The out-patient departments of hospitals are so crowded that but little attention can be given to each individual case. The patients whom the physician or surgeon sees are entire strangers to him. He can know practically nothing of their mode of life, their means of subsistence, or their sanitary surroundings, and can therefore do but little towards the prevention of disease. Nor is it possible for a medical man who charges 6*d.* or less for advice and medicine to give much attention to individual patients if he is to live by his profession. In some out-lying districts matters are still worse, for there, it appears, about half the people die without even having seen a doctor or got the conventional bottle of medicine. Bad as our system of medical attendance is from the patients' point of view, it is still worse from that of medical men, and if things continue as at present the general practitioner who knows the lives of his patients must soon vanish; and I am old-fashioned enough to believe that if he does, or if his place is taken by mere officialdom, it will be a grievous loss to the community.

While practically all are agreed as to the unsatisfactoriness of our present conditions of medical attendance, there are probably only a few who, like myself, have long urged in season and out of season that the only remedy for the present state of matters lies in direct interference by the State. Various methods have been possible in the past, but since members of the Cabinet, Labour Members of Parliament, and others have been visiting Germany and taking an interest in continental methods it is evident that for some time at least the system of compulsory insurance against sickness, and this, of course, must include medical attendance, will hold the field. In the Majority Report of the Poor-law Commission it is expressly stated that it was only the want of time that prevented them going fully into this matter, and it is quite evident that the proposal to solve this question by the increase of provident dispensaries would be utterly futile if compulsory insurance were not adopted. Besides, now that the Chancellor of the Exchequer has spoken and declared in favour of compulsory insurance, and the present Government is evidently prepared to grapple with it, it can no longer be regarded as a mere foolish dream of faddists. And, certainly, no one who has studied the system of compulsory insurance against sickness in Germany and their methods of medical attendance inaugurated and now in force for a quarter of a century can fail to see how that country has benefited by it. After endless modifications through experience, the method in those towns and districts where it is well carried out is extremely simple. A deduction is made from wages to which are added contributions from the employer and the State. The particulars are entered in a pass-book. When the worker or one of his family takes ill the pass-book is taken to the doctor of his choice, who sees the patient at his surgery or, if necessary, at his house. If the patient has to be removed to the hospital or goes to a convalescent home, payment is made from the compulsory insurance fund, and this has been done without interference with the excellent work carried on by friendly societies. No one can deny that, compared with our methods in our country, this is vastly to the advantage of the patient. But what as to the doctors? One hears over and over again that any system of this sort should be vigorously opposed by medical men, as medical men are so poorly paid in Germany and are so much worse off than in this country. I do not believe it, and statements of this sort made in medical journals I have not found to be supported by an atom of proof. I defy anyone to produce any medical man in Germany who, though he may have many complaints, will not at once admit that he is vastly better off with this system of insurance than he would have been without. It would take too much space to go into particulars, but be it carefully noted that this system applies only to those whose income is less than £100, or in exceptional circumstances £150, a year, and that those earning more than this sum cannot, as in this country they so often do, obtain treatment through a cheap club or gratuitously. The Chancellor of the Exchequer has said that for settling the details of this matter he has called in the heads of friendly societies. Medical men, who are equally interested, are evidently ignored. This is not as it should be, but I am not surprised, as the great majority of our profession have not shown themselves to be in the least interested.

I am, Sir, yours faithfully,

Greenwich, May 10th, 1909. J. H. KEAY.

THE LATE SIR WILLIAM GAIRDNER.

To the Editor of THE LANCET.

SIR,—In response to the wishes of Lady Gairdner and her family I have undertaken to edit the medical and scientific papers and articles of the late Sir William Tennant Gairdner and to preface the collection with a biography. In order to render the work as worthy as possible of the memory of the late professor I am desirous of enlisting the sympathy and help of his friends. I venture, therefore, to request through your columns that anyone who has in his possession any letters or other literary remains of Sir William Gairdner will be so kind as to communicate with me.

I am, Sir, yours faithfully,

G. A. GIBSON, M.D. Edin.

3, Drumsheugh-gardens, Edinburgh, May 12th, 1909.

THE BUDGET AND MEDICAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—Is it not beneath the dignity of the profession to take the ground which many have, and go cap in hand to ask the Chancellor of the Exchequer to grant us concessions in the petrol tax, and to urge each member of the profession to seek the good offices of his Member of Parliament to assist us in the matter? It seems to me not only degrading, but that we have no claim to any special abatement. We should face the expenses of our own profession like every other citizen and should be above asking or accepting doles; but we should have the manliness to fight for our just rights.

It is not in legitimate taxes where the shoe pinches us as a profession. But we do feel, and resent, the injustice we suffer in being coerced, under penalty, to give our work to the State as no other members of the nation are ever asked to do. It is not just to demand from us certificates of death gratis; they are required solely for State purposes. It is unfair to constrain us to notify births without remuneration. It should not be obligatory on resident or visiting members of the staffs of large or small hospitals to make post-mortem examinations and attend the coroner's inquests to give evidence on accidents which die in hospital, without receiving any payment. Surely our free services to hospitals should not be burdened by this gratuitous work for the State. These are a few of the instances where our generosity is trespassed upon, and it is in such cases where we suffer in dignity as well as financially.

We do not wish, and ought not to seek, concessions; but we ought, one and all, to contend for our rights as members of a noble profession and as citizens of this great empire. If we honoured ourselves more we should receive more honour in return. Let us cease asking for alms for the few and claim what is our birthright for all. If we are content to accept concessions in taxation for those of us who happen to be sufficiently well off to be able to keep cars, what will the answer be when we claim as our right just payment for work done for the State?

I am, Sir, yours faithfully,

Rugby, May 15th, 1909. CLEMENT DUKES.

BOARDS OF GUARDIANS AND PUBLIC VACCINATORS.

To the Editor of THE LANCET.

SIR,—There is a slight inaccuracy in your annotation on p. 1407 of this week's issue of THE LANCET entitled "Boards of Guardians and Public Vaccinators." The converse of your proposition is quite correct and you rightly condemn its inequity; but it is not true to say that if a public vaccinator

resigns his vaccination the guardians can dismiss him from his Poor-law office, for this is not the case. But as it is nearly always the latter office that is underpaid it is mostly the district medical officer and not the public vaccinator who is forced to resign.

Apart from this slight inaccuracy, our service is greatly indebted to you for drawing public attention to a great abuse of the power of the guardians, certainly not contemplated by the legislation, and a great grievance both to Poor-law medical officers and to the medical profession generally.

I am, Sir, yours faithfully,

M. GREENWOOD,
Honorary Secretary, Poor-law Medical Officers' Association of England and Wales.

London, E.C., May 15th, 1909.

EPSOM SALTS AS A POISON.

To the Editor of THE LANCET.

SIR,—With reference to my article in THE LANCET of April 24th, p. 1174, on Epsom Salts as a Poison, I have had my attention drawn by Dr. W. Sang to the fact that Cases 4 and 6 (Sang's case) present such points of similarity in respect of time, locality, sex, dose, and final result as to suggest the possibility that the two cases may be one and the same.

This opinion I am now in a position to verify. For although my references bear different dates I am satisfied that the scanty details of Case 4 in the *British Medical Journal* and the fuller report of Case 6 in a later issue of THE LANCET are concerned with one and the same subject, the former appearing as a "news" item, while the latter appeared as an original article.

I shall be glad if you will kindly publish this correction so that future references may not be vitiated.

I am, Sir, yours faithfully,

Brighton, May 15th, 1909. CHARLES FRASER.

BRISTOL AND THE WESTERN COUNTIES.

The University in Being.

NEWS reached Bristol on Monday evening, May 17th, to the effect that the University Charter had received the approval of the Privy Council and now only waits for the affixing of His Majesty's Sign Manual. Many churches rang their bells and ran up flags in recognition of the great importance of this event. It is 35 years since a public meeting was held to inaugurate a University College in Bristol, at which the late Archbishop Temple (then Bishop of Exeter) was one of the speakers. Two of the Oxford colleges, Balliol and New, gave substantial support to the scheme on certain general conditions, and in October, 1876, the College was actually opened in temporary premises. The Bristol Medical School, which had already been at work many years on an independent basis, was affiliated, and later incorporated as the faculty of medicine. New buildings in Tyndall's Park were opened in 1880, and since then no less than five substantial additions have been made to these, the last being in 1904. These provide a home for faculties of arts, science, engineering, and medicine. There is no doubt that those who were most intimately concerned in promoting the welfare of the College saw in it the nucleus of a university, and, obedient to this vision, they have sustained the policy of expansion throughout. The support afforded by the public has not always been what it might, with a few brilliant and generous exceptions; but since the year 1899, when the University College Colston Society was founded, the public attention and interest have been increasingly concentrated upon the University scheme. This society has collected over £5000 for the University, and has enlisted the support of many eminent men who have spoken at the annual dinners. It was at the 1908 dinner that Mr. Henry Overton Wills's promise of £100,000 was made public. Since that time the development of the scheme has advanced rapidly. His Majesty's visit in July last was made the opportunity for presenting a petition relating to the charter, new buildings have been acquired, and funds collected, till the total value of University property has surpassed the minimum (£250,000) at which a charter can be granted; the city council has devoted an annual rate of 1*d.* in the £ towards the income of the University; and a Parliamentary Bill transferring the property and liabilities of University College, Bristol, to the University of Bristol has been approved by the governors of the former. Arrangements have also been made for the inclusion of the Merchant Venturers' Technical College in the University as a faculty of engineering. There are two family names which will always be honourably remembered in connexion with the foundation of the University of Bristol—those of Wills and Fry. Their support is not to be reckoned in pounds, shillings, and pence merely, though in this respect their contributions have been lavish; there is also a great debt of gratitude owing to them for the interest, personal influence, and capacity for organisation which have been freely devoted to the project which has now been crowned by the Royal approval. I must defer the consideration of the terms of the charter to a later communication.

Other University Intelligence.

Two appointments that are very gratifying to the Bristol Medical School have recently been made. The Bradshaw lecturer of the Royal College of Surgeons of England for 1910 is Mr. F. Richardson Cross; and Dr. J. M. Fortescue-Brickdale, the director of the Public Health Laboratory, has been made lecturer on Pharmacology to the University of Oxford.—At a recent meeting of the Workers' Educational Association, Mr. G. H. Leonard, professor of history at University College, who was in the chair, said that the working-classes were to have more representatives in the court of the University of Bristol than in any other university court in the kingdom. There were to be eight in all, the president and two members of the Trades Council, two members of the Friendly Societies' Council, two members of the Coöperative Society, and one member of the Workers' Educational Association. He also announced the provision at University College, by a lady who did not wish her name published, of two small scholarships for working people.

The Bristol City and County Asylum, Fishponds.

The medical superintendent of the Bristol County Asylum (Dr. J. V. Blackford) reports that during 1908 the admissions numbered 247 (103 men and 144 women). The percentage of recoveries on the admissions, excluding transfer cases, was 42·42, and compared favourably with previous years; 84 patients were discharged as recovered. The number of deaths during the year was 140—viz., 74 males and 66 females—the death-rate on the average number of resident patients being 15·09. Post-mortem examinations were made in 123 cases, being over 87 per cent. on the total deaths, all of which were due to natural causes. The highest number of patients resident at one time during the year was 915. The new wards for male patients are to be opened on May 25th.

An Interesting Compensation Case at Exeter.

At Exeter county court last week, before his honour Judge Lush Wilson, K.C., a claim for compensation was made by a farm labourer against his employer, a local farmer. The applicant was asked to clean out a tannery pit. The liquor to be removed from such pit consisted of the acid and bloody fluid which drained off the skins, the acid having been added to clean the skins. The acid percolated through the labourer's boots, caused vesicles to form on his feet, and eventually blood poisoning followed. His honour said the question he had to decide was that the blood poisoning was caused by accident arising out of his employment, and gave judgment for the applicant.

A Poor-law Medical Officer's Salary.

Some time ago the Local Government Board informed the Falmouth board of guardians that the salary of £20 per annum allowed to Mr. Dudley R. Harris as medical officer to the workhouse was inadequate, and the late inspector (Mr. Preston Thomas) spoke very strongly about the matter. At the last meeting of the guardians a letter was read from the Local Government Board asking the guardians to reconsider the salary of their workhouse medical officer. After some discussion it was resolved to refer the subject to the house committee. It is to be hoped that the guardians will follow the advice given them and award Mr. Harris an adequate salary.

A Proposed Memorial to Dr. Hugh Montgomerie of Penzance.

It is proposed to endow a bed in the West Cornwall Infirmary, Penzance, to the memory of the late Dr. Hugh Montgomerie. Several subscriptions have been received

including £200 from Mr. and Mrs. R. Bolitho. It is probable that the Lord Mayor of London, when he visits Penzance next month, will dedicate the bed, and the Lady Mayoress will be asked to receive purses on its behalf. Dr. Montgomerie was for some years honorary physician to the West Cornwall Infirmary, and his father and grandfather had also been members of the honorary staff to the institution.

The Local Government Board and the Torrington Board of Guardians.

At a meeting of the Torrington board of guardians held recently a letter was read from the Local Government Board taking exception to the appointment of the medical officer for the Dolton district being for a definite term, as proposed by the guardians, as the usual custom was for such appointments to be permanent. After a considerable discussion it was resolved to appeal to Mr. G. Lambert, M.P., to interview the President of the Local Government Board on the matter.

A Proposed Isolation Hospital for Tavistock.

At the last meeting of the Tavistock (Devon) urban council a letter was read from the Duke of Bedford, stating that if the Tavistock rural and urban councils decide to build a joint isolation hospital he would contribute half the cost if under £2000, or £1000 if the cost be over £2000. After some discussion a committee was appointed to draw up a scheme and report.

May 18th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

LAST Saturday it became known that the King and Queen would visit Birmingham on July 7th to open the new buildings at Bournbrook. Thus the long-cherished wish of the city is to be realised and the preparations, which were commenced with hope but without knowledge, will now be pushed rapidly forward. Several of the departments in the new buildings, including those of engineering, metallurgy, and mining, are finished and have been in use. The departments of chemistry and physics, the Harding library, and the tower are well advanced towards completion and the grounds are beginning to assume a pleasant and well-looked-after aspect. Visitors who have not seen the new part of the University will be surprised at the stateliness and beauty of the design and the magnificent scale upon which it is being carried out. The whole scheme will not be completed in this generation unless many bountiful donations are received, but the grandeur of the conception on which it is based is even now very evident. The magnificence as well as the utility of their new possession has not yet been fully grasped by the city as a whole, but the time will come when it will be universally realised and the city will look with pride upon what will be one of the most potent factors in its future history.

The Milk-supply and Tuberculosis.

At the provincial sessional meeting of the Royal Sanitary Institute held in the Medical Theatre of the University last week Mr. J. Malcolm initiated a discussion upon Tuberculosis and Milk-supply by an interesting paper dealing chiefly with remedial measures. It appears from Mr. Malcolm's statements and from the discussion which followed the expression of his opinions that the main obstacle to rapid improvement of the dairy cattle is expense. It was admitted that whilst testing and subsequent segregation of reacting cattle will eventually free the country from a formidable source of infection, still that process is relatively slow, and to make it thoroughly effective it must be combined with improvement of the buildings in which the animals are housed. It was urged that in the long run the most economical method was the destruction of the infected cattle, for by that means the best prices would be secured for the animals and the farm would most rapidly become clean and more fully remunerative, especially if at the same time the cowsheds were rendered more healthy. There was difference of opinion, however, as to the means by which the cowsheds could be most economically and effectively adapted to their purpose, some of the speakers inclining to the provision of a greater amount of cubic space and others being inclined to rely upon improved ventilation. The provision or non-provision of compensation for the destroyed animals is obviously one which will greatly influence the rapidity of the steps taken to secure improvement, and Sir Richard Cooper stated his conviction that if the farmers were prepared to deal with the subject in a reasonable way and approached the Board of Agriculture with reasonable proposals they would be liberally met and compensation would be granted. If this conviction is well founded farmers should be strongly urged to take quick action, for the welfare of many thousands of children depends upon the rapidity with which the present conditions can be replaced by others of a more satisfactory character. Steps have already been taken by our health committee for the supply of pure milk to public institutions. 11 farms are now being dealt with and four are already completely free from the disease.

Suggested Diploma for Veterinary Surgeons.

It has been suggested that the University should grant diplomas to properly qualified veterinary surgeons on lines somewhat similar to those which have been adopted by some other provincial universities. The matter is still under the consideration of the University authorities and it has also been referred to the council of the Midland Counties Veterinary Medical Association. There is little doubt that, if it seems desirable to take action, the University will be prepared to take the necessary steps and to provide a proper curriculum.

The General Hospital.

At a recent meeting of the board of management the Earl of Plymouth was elected President of the General Hospital, an appointment which carries with it the presidency of the Triennial Musical Festival which takes place next October. At the same meeting it was announced that Mrs. Rickards had decided to give to the hospital £1200 for the purpose of dedicating a bed to the memory of the late Dr. Edwin Rickards, who was connected with, and gave very valuable services to, the hospital for a period of 36 years.

The Decline of the Measles Epidemic.

Between March 9th and 16th last we were at or near the highest point of the measles epidemic, from which the city and district have suffered severely, and the measles death-rate for the week totalled 44. From that period onward the decline commenced, and by April 6th the deaths from measles had fallen to 30 for the week. By April 20th the deaths had fall to 14 for the week. They were slightly more numerous during the next three weeks, but last week the decrease was rapid and only five deaths from measles were registered. We may congratulate ourselves, therefore, that we have passed through the worst of the epidemic and have entered on the comparatively free period which regularly follows the epidemic attacks.

May 18th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Electricity Out of Control.

IT is perhaps well that our boastings as to applied science, such as the harnessing of the giant electricity for our own use, should now and then be a little disturbed, if only to remind us that these powers are as dangerous as they are useful. A series of explosions which took place on May 8th show that our control is still imperfect. The tramway wires at the junction of two streets in Hulme fused and burst into flames, and a moment later a cable-box at the foot of one of the standards exploded and blue flames shot out from the standard. Without warning another violent explosion occurred—a section-box bursting and causing a panic amongst the crowd that had gathered, and the flames from this box threatened to spread to adjacent buildings. It was found almost immediately that there was an outbreak in a chapel in Jackson-street and an outbreak at the Bridgewater Canal offices. Happily there were no personal injuries or loss of life. More or less similar occurrences happen from time to time in Manchester, and no doubt in other large towns, showing that the necessity still exists for perfecting our control over the powers of this invaluable agent.

Overcrowding.

Under the direction of Dr. J. Niven a census has been recently taken of dwellings sublet in the city. In one district, out of 1112 inhabited houses, 205 were sublet into 655 tenements, 439 being of one room only. Another district showed 1966 houses with 249 sublet, while the death-rate closely follows the density of the population. In Ancoats and Hulme, where the population is over 100 to the acre, the death-rate is more than twice as high as at Wittington, Moston, and Clayton, where the population averages about 15 persons to the acre.

Milk.

Councillor Hailwood of Salford, speaking a few days ago as President of the National Federation of Dairymen and Cowkeepers' Association, spoke, as was natural, in praise of milk as the "cheapest and most nourishing" food that went into the house, and said very truly that if children had more milk in place of tea and coffee a great improvement would be seen in their health in a very short time. He gave some interesting figures as to the daily consumption of milk in large cities. Boston, U.S.A., heads the list with 20 ounces the daily consumption per head of the population. In Edinburgh and Glasgow the consumption is only half as much. In Liverpool and Sheffield it was seven ounces, but in Manchester and Salford only four ounces.—On Saturday, May 8th, a meeting was held at Chester of the North-Western centre of the Sanitary Inspectors' Association, when a paper was read on Municipalities and the Milk Problem, in which it was suggested that cowkeepers and milk-sellers should be licensed annually by local authorities. In the discussion that followed it was said that they could not expect a pure, wholesome, unadulterated milk-supply unless consumers were prepared to pay the cost, and one would be afraid that with greater stringency as to the provisions for securing a pure milk-supply the increased cost would tend to restrict consumption, especially in the poorer households. It would be safe to say that on the whole there are more care and cleanliness with regard to milking and the after-care of milk than was formerly the case, but we seldom hear of ill-effects from the taking of milk except in the cases where it has served as the carrier of infectious diseases, such as typhoid or scarlet fever. At the same time, the following true story shows how primitive in some cases the ideas of cleanliness are. A lady who employed her servant in milking her one cow, asked her one day if she had washed her hands before milking. The girl answered, "Oh no, I always wash them in the milk." Dr. J. R. Currie, the assistant medical officer of health of Chester, pointed out that the calves of tuberculous cattle were not affected with the disease, and by being fed on pure milk might be kept free from it.

May 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Treasury Committee and the Scottish Universities.

THIS committee, which the Government appointed some time ago to inquire into the needs of the Scottish Universities, has been in Edinburgh lately. The committee is presided over by Lord Elgin. The members visited the various medical teaching centres outside the University as well as the various departments in the University. Evidence has been taken from the Principal and others. University teaching, extra-mural teaching, and the teaching of women have all been inquired into. It is hoped that the result of the inquiries may be an increased grant to Edinburgh, for the University is much in need of money.

Appointment of Assistant Physician to Edinburgh Royal Infirmary.

The managers of the Edinburgh Royal Infirmary have appointed Dr. Edwin Matthew an assistant physician to the infirmary. Dr. Matthew is a graduate in arts of Aberdeen, and graduated in medicine at Edinburgh in 1897. He has for a number of years been an assistant physician to Leith Hospital. There were four other applicants.

The Illness of two Edinburgh Professors.

I regret to say that Professor J. Chiene has required to have his leave of absence prolonged on account of health. Professor D. J. Cunningham, who had gone to Egypt for rest and to regain strength, has returned without having received such benefit as his friends had hoped.

Edinburgh Post-Graduate Vacation Course in Medicine.

The syllabus of this course has been issued and contains all the necessary information, so that intending students may make up their time-table long in advance. The course will extend from Monday, August 30th, to Saturday, Sept. 25th, and will comprise (1) a general course, the composite fee for which will be 5 guineas for the four weeks, or 3 guineas for either the first or second fortnight; and (2) a surgical course, which will include classes on operative surgery, surgical anatomy, surgical pathology, and x rays applied to surgery. These classes will be exclusively reserved for those attending the surgical course, the composite fee for which will be 10 guineas. 3. Special classes on (*a*) bacteriology; (*b*) the blood; (*c*) the ear and throat; (*d*) gynæcology; (*e*) histological methods; (*f*) ophthalmology; (*g*) errors of refraction; and (*h*) x rays, the fee for each being 1 guinea. Each day throughout the course a special lecture will be delivered at five o'clock upon some subject of general medical or surgical interest. The University union will allow graduates to become temporary members for one month on payment of a fee of 5*s*. In the general course the subjects of medical anatomy, diseases of children, medical inspection of school-children, dermatology, diseases of the eye, infant feeding, infectious diseases, neurology, pathological anatomy, and tropical and venereal diseases find a place. In the past these post-graduate courses have been remarkably successful, and it is to be hoped that an equal if not greater success will follow this course.

Montrose Asylums Board and Parish Council Representation.

An important conference took place at Montrose on May 12th between members of the General Board of Lunacy and the managers of the Sunnyside Asylum as to the proposed change in the charter so as to admit popular representation by parish councils on the asylum management. Dr. J. Macpherson, Commissioner in Lunacy, said that the present board was composed of members drawn exclusively from the town of Montrose and the immediate neighbourhood, so that the parish councils of Forfarshire were compelled by law to send their patients to an institution in the management of which neither they nor any other representative body within the county had any direct voice. He thought that the present arrangement was a most unfortunate one, and that it ought to be terminated as speedily as possible. He outlined a scheme indicating an asylum committee, consisting in all of from 10 to 12 members. After a lengthy discussion the board of managers decided to meet specially to consider the question.

Aberdeen Royal Infirmary: Resignation of Dr. Angus Fraser.

At a meeting of the directors of the Aberdeen Royal Infirmary, held on May 12th, a letter was submitted from Dr. Angus Fraser intimating his resignation as an infirmary physician. The board resolved to record its high appreciation of the invaluable service rendered by Dr. Fraser to the hospital, and through it to the sick poor of the city of Aberdeen and large surrounding district, during the long period of 38 years in which he had occupied the position of a physician on the staff of the infirmary; its sense of the very high honour it had been to the infirmary to have had for so long on the roll of its officials the name of one so distinguished in his profession; and its grateful recognition of the other many and varied ways in which Dr. Fraser had, by his sagacious counsel and his unsurpassed knowledge of the history and working of the institution, contributed to its welfare and success. It was resolved to request Dr. Fraser's permission to continue his name on the staff of the infirmary as a consulting physician.

Sidlaw Sanatorium.

The executive of the Sidlaw Sanatorium at a meeting on May 11th acceded to a request by the Dundee town council to have the agreement for municipalisation cancelled on the understanding that the town council pay the expenses incurred in connexion with the negotiations. Mr. F. B. Sharp, the chairman, in a letter, expressed the opinion that the town council was under a moral obligation to make good to the sanatorium the permanent injury sustained in consequence of its action in initiating negotiations for the

acquisition of the sanatorium by the town and then asking them to cancel an honourable agreement. He also added that he was willing to make good any deficit (not exceeding £300) which might arise on the working of the sanatorium on its present lines from May 1st to Dec. 31st of this year.

Presentation to an Inverness Practitioner.

On May 11th Dr. G. W. England Kerr of Inverness was, on the occasion of his wedding, presented with a beautiful motor car and with a purse of sovereigns, while his wife also received a gift. Mr. James Ross, rector of the Mackenzie School, made the presentations on behalf of the subscribers, who numbered over 1800.

Keith Town Council and Pulmonary Tuberculosis.

At a meeting of the Keith town council, held on May 10th, it was decided to include pulmonary tuberculosis among notifiable diseases.

May 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mortality in Irish Towns.

THE second week of the present month showed a more favourable death-rate record than any of its predecessors for a number of years. The rate fell from 23 per 1000 of the population in the previous week to 18·75. The average of the four preceding weeks had been 23·5. The highest death-rate of the second week of May which occurred in Ireland was that of Kilkenny, which reached 39·3. No deaths occurred in Clonmel, another favourable contrast from the 36 per 1000 of the week preceding. In three other town districts only was the rate below 10 per 1000: Drogheda (8·2), Sligo (4·75), and Galway (4). The death-rate of Queenstown reached 33. The total number of deaths which occurred in Dublin was 133, the number of births being 301. During the 18 weeks which ended with the second week of this month the average death-rate of Dublin was 26·5 per 1000—being 1·5 below the average for the corresponding periods of the past ten years. The deaths from whooping-cough fell to four, as against 13 of the previous week. Those from tuberculous disease fell from 33 to 29, which included 23 from pulmonary consumption. There were no fresh cases of whooping-cough reported in the city area, but 14 cases were reported from the Pembroke township. Four cases of scarlet fever occurred in Rathmines. There were seven cases of diphtheria reported in the city and one in Rathmines; the other townships remained free.

The Medical Officer of Health of Belfast.

In reply to a letter of the public health committee asking the Local Government Board to reconsider its decision regarding the proposal of the Belfast Corporation to increase the salary of the medical officer of health, the Local Government Board has written that it was unable to vary its decision and that it saw no reason for departing in this case from its usual practice of requiring a period of five years' service before sanctioning increase in an officer's salary. The health committee has expressed its regret at this decision which is final.

Ballykelly Dispensary.

Dr. J. R. Ross has just been obliged, owing to the state of his health and his age (69), to tender his resignation of the office of medical officer of Ballykelly Dispensary, a position which he has held for 42 years. At a meeting of the Limavady board of guardians held on May 17th the resignation was accepted and a resolution was unanimously passed acknowledging Dr. Ross's faithful services, particularly to the poor.

The Queen's University Commission.

This Commission began further sittings on May 17th at Queen's College, Belfast. The selection of the new professors and lecturers was considered; and deputations were received from the Technical Institute in reference to coördinating university and technical education, and from the other institutions in regard to recognition as a teaching institution.

May 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Isotonic Sugar Solutions for Injection.

AT a recent meeting of the French Society of Military Medicine M. J. Labougle and M. Boutin communicated a paper in which they called to mind the undesirable results which sometimes occur from injections of saline solutions, even when they were isotonic, and they proposed the replacement of the sodium chloride by sugar. A solution composed of 10·30 grammes of sugar in distilled water is, they state, perfectly isotonic, is cryoscopic in the same degree as the blood serum, is non-toxic, and has been employed with the greatest success in various cases of serious illness, such as typhoid fever, malaria, and septicæmia. These sugar injections have the same good effects as those of artificial serum without giving rise to the disagreeable effects which the latter sometimes produce, and they can be used without risk even in patients suffering from acute albuminuria. Moreover, they produce abundant diuresis. The only contra-indication to their use is diabetes.

Ophthalmia in the Newly Born.

At a meeting of the Academy of Medicine held on May 4th M. Motais read a paper in which he advocated the use of protargol instead of nitrate of silver in the treatment of ophthalmia of the new-born infant. The eyelids are everted and gently washed with a solution of potassium permanganate of a strength of 1 in 400. Then two drops of a solution of protargol, one gramme to five grammes of distilled water, are dropped into the eye every three hours, day and night, for two or three days, until the secretion becomes less in quantity and of thin consistency. When this happens the instillation is only made every six hours. After five or six days of this treatment there is hardly any secretion and the swelling of the lids has practically disappeared. The treatment is continued with a solution of half the strength until complete cure is obtained. If ulceration of the cornea has commenced before the treatment is begun the protargol arrests the destructive process, and cicatrisation of the ulcer commences almost at once. Midwives are at present authorised to use preventive treatment by instilling into the eyes of a new-born child a solution of nitrate of silver of a strength of 2 per cent., and it is to be feared that as they have this solution at their disposal they will continue to use it. M. Motais considers that it would be more prudent to allow them to use nothing but a one in five solution of protargol, which is quite harmless although very active.

The Prevention of Blindness in Workers.

At the same meeting of the same society M. Motais discussed a most interesting and important question—namely, the measures to be taken for preserving the sight in workers who by their tasks are exposed to the risk of losing it. He said that great importance was rightly attached to ocular hygiene in schools, but that no one took any heed of ocular hygiene in workshops, offices, and shops. The children in secondary schools throughout France numbered about 250,000. The number of workers of both sexes, such as dressmakers and embroiderers especially, and in other trades, those who are exposed to dust, to either too intense or not enough light, to injuries by pieces of steel, or stone, or coal, exceeds 3,000,000. Every year thousands of dressmakers, clerks, cashiers, and accountants lose their sight, not so much from excess of work as from defective lighting and a deplorably faulty position during their work. Each year, too, thousands of workers become blind from irritating dust, fragments of iron, coal, glass, wood, or stone shot into the cornea, or from exposure to intense lights. To remedy this state of things M. Motais proposed the appointment of an inspector of factories who should look after the cleanliness of the windows, which are too often encumbered with dust or spiders' webs or overshadowed by trees. Arrangements for day lighting should be based on those at present in use in schools; for artificial lighting a special committee should be appointed. The use of protective spectacles should be made obligatory on all workers whose eyes are exposed to the possible impact of foreign bodies, and advice should be given to workers as to the importance of there being good light for their work.

Sero-therapy in Diphtheritic Paralysis.

At a meeting of the Hospitals Medical Society held on April 30th M. Mery, M. Weill-Hallé, and M. Parturier recommended the following method of administration of anti-diphtheritic serum for the prevention and cure of diphtheritic paralysis. The serum must be injected subcutaneously day by day both during and after the affection of the throat without waiting for the first manifestations of paralysis. Big doses must be used, from 40 to 60 cubic centimetres a day during the acute period, and after this from 10 to 20 cubic centimetres every two days. Also, according to M. Hutinel's advice, 10 centigrammes of powdered suprarenal body must be given every day. M. Netter has also used large doses of serum together with adrenalin. The combination of these two therapeutic measures will cure a certain number of severe diphtherias without complications. But as grave cases of diphtheria do not always declare themselves as such at the beginning of the disease the intensive treatment should be begun and continued in every case of diphtheria. The large doses of serum injected do not appear to bring about any anaphylaxis or any toxic effects, and M. Sicard stated that in one case of diphtheritic paralysis he had injected over 600 cubic centimetres of serum without any ill-effect.

May 18th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

A Novelty in Open-air Treatment.

ON the recommendation of several medical men in Vienna the municipality last year opened an institution called here by the popular name of "Gäuschäufel." It is simply an open-air sanatorium for healthy persons. The old idea that sunlight, air, and water are the main restoratives at our disposal was long ago taken up by a non-medical philanthropist, who opened an establishment of the most primitive kind on the banks of the Danube on the outskirts of Vienna. The results obtained by him have prompted the municipality to enlarge the establishment and conduct it on modern principles. An immense area covered with fine sand, deposited from the Danube, which used to flow there in ancient times, a long river bank with shallow, rapidly-flowing, cold water, and the absence of any shade-giving trees are the three principal health-giving factors relied on. Special care has been taken to enable schools to make use of the facilities offered there; 4000 persons can undress at the same time, and free tickets have been granted to schools and workshops, so that on some days last summer 10,000 persons were seen there, going about in the open air nearly naked. It must be admitted that the institution has done much to convince the lower classes of the good influence of a natural mode of life. No less than 200,000 persons have availed themselves of the opportunity offered them and for this year an increased area has been thrown open for the "air cure." There is a special medical attendant present, for cases of sunstroke have been noticed now and then, but, generally speaking, no serious mishap has occurred. As the inhabitants of Vienna, unlike those of London, have no sea coast within easy reach, this substitute has been welcomed by the population.

The Prevention of Venereal Disease among Students.

The increase of venereal disease amongst the better classes of the population, as well as the fact that young students fresh from school or country are very liable to succumb to sexual temptation, has prompted the senates of the universities not only in Austria but also in Germany to issue a printed warning to all students on matriculation, cautioning them against the dangers of venereal disease. In this leaflet the widely-diffused idea that sexual intercourse is absolutely necessary for the developing body is refuted, and the antiquated notion that "a little gonorrhœa" is nothing to be ashamed of is shown to be a serious and dangerous fallacy. The students are reminded that such superstitions result in terrible suffering on the part of innocent wives infected by their husbands, for gonorrhœa may completely undermine a woman's health, causing sterility and domestic unhappiness. It is added that in more than 50 per cent. of sterile marriages the first link in the chain of events has been gonorrhœa contracted by the husband. After recommending an immediate visit to a competent practitioner when once disease has been acquired and cautioning against secret remedies and quacks who make great promises, the leaflet goes on to say that sexual intercourse whilst a man is still affected with disease is an infamous act. It is signed by some very well-known men, including Dr. Gruber, Dr. von Esmarch, Dr. Fischer, Dr. Flügge, Dr. Hueppe, Dr. Neisser, and Dr. Pfeiffer. In order to enable students to obtain competent help and advice in cases of disease special friendly societies (*Krankencassen*) have been formed for students of all universities and all branches in Austria. The medical men attached to them have mostly been at one time members of a *Cassa* themselves, and the students in this way have at a very small cost sufficient medical care and attention. It must be mentioned that in this country numerous students come from poor families, so that the expense of treatment would be a very heavy burden to them but for these *Krankencassen*.

Horse Serum in the Treatment of Hæmophilia.

At a recent meeting of the Gesellschaft der Aerzte Dr. Mautner showed a boy, four and a half years old, who was suffering from hæmophilia and had once already been in hospital for dangerous hæmorrhage which was controlled with difficulty. This time the child was admitted in a nearly moribund condition, three days after the extraction of a lower molar tooth. He had been losing blood continually and the styptics applied locally were absolutely useless. Dr. Mautner thereupon injected 20 cubic centimetres of normal horse serum, acting on a suggestion made by Dr. Wirth and mentioned by me in THE LANCET of Feb. 13th, p. 508. After a few minutes the oozing became less and the bleeding soon stopped but reappeared the next day. Another injection of the same strength had a permanent effect. Whilst a blood count on admission showed only 1,700,000 erythrocytes per cubic millimetre their number rose to 2,700,000 five days after the first injection and the general condition of the patient improved rapidly. A remarkable feature of this case was an atypical serum disease appearing 28 days after injection, manifesting itself by a rise of temperature, swelling of the glands, pain in the joints, and leucopenia (4000 leucocytes per cubic millimetre). There also appeared at the same time a general erythema of the nature of erythema multiforme. A similar belated occurrence of a serum exanthem has been noticed several times in very debilitated persons. A point worth mentioning was the fact that the experiments on anaphylaxis showed that in addition to other changes the injection of serum caused also a loss of coagulability of the blood after two or three weeks. This, however, was only in certain animals which had received large amounts of serum intravenously, and especially in dogs. In human patients the amount of serum used was relatively much smaller and its absorption was much slower, otherwise there might be reason to fear that hæmophilic patients treated with horse serum would be in great danger if fresh bleeding should occur from 20 to 25 days after the injection. That this did not happen has been proved already.

May 17th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Public Executions.

MARTIAL law and court-martial have commenced the work of retribution with a stern and resolute hand. The instigators and the leaders of the last mutiny, soldiers and officers, civilians and priests, are being publicly executed on open places of the metropolis which are most crowded and exposed, such as the Stamboul end of the Galata bridge, the wide space near Saint-Sophia, and the thoroughfare of the mosque of Sultan Bayezid. The executed men were exposed on their gibbets to the crowds for several hours, and with feverish eagerness great masses of people streamed out to see them suffer. The scenes were repulsive in the highest degree. A female patient of mine who saw the hangings was so affected by the horrible sight that she is bedridden at present in a febrile delirious condition and probably many more share her punishment for their morbid curiosity.

The Massacres at Adana.

The massacres at Adana and other places in the interior of Asia Minor have been, judging from the latest reports received at the American Bible House in Stamboul, of a most extensive and dreadful character. The Armenian Committee "Dashnaksutiun," which organised in Constantinople a very efficient medical staff to attend to the wounded in different hospitals of the city, has now sent to Adana a medical mission for the same purpose, consisting of three doctors, four assistants, and three nurses. The American missions have suffered greatly from the last reactionary disturbances in the interior. Several missionaries, medical and others, have been massacred and their houses destroyed by fire. The Government is sending a sufficient number of regiments to put an end to the reckless doings of the reactionaries and to punish the perpetrators. It seems that the latest massacres at Erzerum have been just as extensive and terrible as at Adana. According to the official report of Mustafa Sihni Pasha, the Vali (Governor) of Adana estimates that in the town itself, 345 Mahomedans were killed and 200 wounded. Among the Armenians the number of wounded amounted to 250 and of killed to 525. In the surroundings of the city 625 Moslems were killed and 40 wounded. The number of killed Armenians there was 250 and of wounded 30. According to the same official statement, in the whole vilayet of Adana 1924 Mahomedans and 1455 Armenians have been killed, and 533 of the former and 382 of the latter wounded. Out of a total of 250,000 people inhabiting the vilayet only 48,000 are Armenians. The court-martial has determined to verify thoroughly these statements of the Vali.

The New Sultan.

The new Padishah Mehmed V. was girt with the sword of Osman on the 10th of this month in the sacred mosque of Eyoub on the right shores of the Golden Horn, and thereby became the true and real "Shadow of Allah on Earth." The ceremony went off quite smoothly in splendid weather and with great Oriental pomp and splendour. The new Sultan seems to have become a very popular personality with his people, who admire his simplicity of manner and great readiness to mix among the population of the metropolis in an unrestrained manner. The Sultan has appointed a Greek doctor, Evlambios Effendi, to be his body-physician.

Some Statistics of Tuberculosis in Children.

In a clinical study on tuberculosis of children in Constantinople Dr. J. B. Violi gives some interesting statistics of his "Hôpital International des Enfants," of which he is the originator and director. From July 5th, 1895, till Dec. 31st, 1908, 39,749 sick children received medical and surgical treatment in this institution. Of this number, 475 were entered as suffering from tuberculosis of various forms. 175 had tuberculous peritonitis. In 25 of these cases Dr. Violi traced the origin of the disease to a contagion from father, mother, or some other person in the patient's immediate surroundings. The same observation was made in 22 cases out of 185 children who were afflicted with either tuberculous osteitis or periostitis; in 19 cases out of 69 of tuberculous meningitis; in three out of 25 with tuberculous glands; and in 11 out of 23 cases of pulmonary tuberculosis. Dr. Violi says that in view of these figures he should consider that 5 per cent. of the tuberculous patients in his hospital had the disease transmitted to them by persons with whom they lived in close contact. The following sequence of cases which occurred in Dr. Violi's private practice is of special interest in the same connexion. In July, 1906, he was called to attend, in a Turkish family, a girl, aged 13 years, who was suffering from pulmonary tuberculosis and who took care of her sister 18 months old. The advice of the medical man to keep the two children separate was not carried out. Three months later the babe fell ill with tuberculous meningitis. A lumbar puncture and microscopic examination revealed Koch's bacilli. The child died in 45 days and the girl who attended her succumbed three months after. The mother, who always was in close contact with these two children, continued to nurse them during her pregnancy. She gave birth to a very healthy boy whom she suckled herself in spite of the fact that she was suffering from a very severe cough, and against the urgent advice of her medical attendant to get a wet-nurse for the baby. The latter became ill in his fourth month of life with an influenzal attack which developed into broncho-pneumonia, death occurring 35 days after. Koch's bacilli had been found in the sputum. By this time the mother was suffering from greatly advanced pulmonary tuberculosis, and falling again pregnant gave birth to a healthy girl but died a few days afterwards. Thus, in the course of two years four persons succumbed in this unhappy family to tuberculosis transmitted from one member to the other.

Mortality Returns for April.

The number of deaths during the month of April amounted to 1907. Of this number, 147 died from tuberculosis, which seems to be an unusually large proportion. 96 cases succumbed to acute diseases of the respiratory organs, 32 to typhoid fever, nine to measles, eight to cerebro-spinal meningitis, and nine to small-pox. These figures, as well as the above statistics, are taken from *La Pédiatrie en Turquie.*

May 14th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A Memorial Research Fund to the Late Dr. Bull.

THE committee appointed to decide upon a fitting memorial to Dr. William T. Bull has reported in favour of the creation of a large fund ($500,000) for conducting original research under the direction of the College of Physicians and Surgeons, a department of Columbia University. It is not to be devoted to the erection of buildings and laboratories, but to the payment of adequate salaries. The committee states that the purpose of this memorial foundation is to unite to the great centres of practical surgery in New York a department where organised study of such work can be carried on from its various standpoints of pathology, bacteriology, physiology, and anatomy, and where facilities for necessary experimental work exist, and where the recording and publishing of results and findings may be effected. It is peculiarly fitting that the College of Physicians and Surgeons should be intrusted with this memorial, as Dr. Bull was its professor of surgery, and a great part of his most active years was devoted to its service. The College also furnishes the Department of Surgery with its affiliated departments, and in addition the laboratories of pure science of the University. In possessing access to these laboratories, presided over by men of recognised ability, with clinical facilities afforded by the hospitals, this foundation will have unsurpassed advantages for research work.

The Result of Trials of the Insane by Juries.

Dr. Robert W. Lamb, superintendent of the State Hospital for Insane at Matteawan, New York, has followed the history of 34 inmates of that institution who have been discharged as sound in mind by juries. 14 of this number returned eventually, either to prison or to the asylum; eight became troublesome to their families; three were unable to earn a livelihood; six disappeared; two committed suicide; and only a single one of the 34 was able to support himself partially after his discharge. Dr. Lamb states that in all cases referred to which have been submitted to juries for verdict the finding has been uniformly in favour of the insane person. He proposes as a remedy for this method of discharging insane criminals that the release shall require a certificate of two competent medical examiners and the approval of a judge of record. He very truly says it is a mistaken kindness to the individual, as well as a grave injustice to society, to turn adrift an irresponsible derelict, incapable of correct conduct.

Economy in Hospital Management by Coöperation.

The representatives of 45 hospitals in Greater New York held a conference recently to consider a plan of coöperation in the purchase of supplies. The proposed method of procedure was presented by a former purchasing agent of two of the largest railroads in the country. The plan consists of establishing a bureau with its officers which should be devoted to the purchase and distribution, on requisition, to the several hospitals of the usual supplies. It was shown that the method of wholesale purchase in the open market

which such a central purchasing agency would adopt would diminish the cost to each hospital, compared with the present method, one-third to one-half. The maintenance of this agency was estimated to cost $24,000, and the saving annually to the hospitals would be $161,000. The plan was approved by the conference and the approval of the boards of management of the hospitals represented was strongly recommended.

The Increase of Psychopathic Hospitals.

One of the most striking evidences of progress in the scientific treatment of the insane in this country is the rapid increase of psychopathic hospitals. In these institutions those admitted are placed under the immediate observation and treatment of physicians skilled and experienced in nervous diseases, and as most of the patients are "suspects" rather than confirmed cases of insanity, large numbers recover without being certified as insane, as formerly, when thousands of "border-line" patients were rushed directly from their homes to the asylums. The reports of the psychopathic hospitals in this State, New York, show an astonishing number of discharged patients compared with the total received. The State of Illinois has established a psychopathic hospital in connexion with each asylum, on which large sums of money have been expended for construction and modern equipment. Other States are building or agitating the question of the necessity of such hospitals, and the future outlook indicates a great advance in the scientific treatment of the insane and the rescue of thousands from commitment to the old-time asylum.

May 10th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Hospitals and Snake-bite.

WHILE the recent Bombay Medical Congress was discussing remedies for snake-bite, the Madras Government was considering measures for bringing them within easier reach of the people, and a definite scheme with this object has just been approved. At first it was intended to prosecute the investigations of snake venoms and their antidotes at the Coonoor and Guindy Medical Institutes, but this proposal has been abandoned for lack of adequate equipment and staff. The second part of the scheme, however, will be carried out, and it provides that a stock of antivenene shall be kept in all hospitals in the Presidency and its availability advertised by every means possible, even down to the beating of tom-toms through the villages. The Madras proposals leave on one side, apparently, the Lauder Brunton treatment for snake-bite with lancet and permanganate of potash, but this treatment is so difficult of effective application in many cases that it can as yet hardly be recommended as trustworthy. The antivenene supplied will be the polyvalent variety recommended by Lamb and based on the theory that the six common terrestrial poisonous snakes of India can be roughly divided into two classes and the effects of all their bites efficaciously treated by the one antivenene. The great difficulty will be to get the people to take advantage of the facilities for treatment, which must, of course, be applied very quickly after the injury has been inflicted. The Madras Government is doing all that is possible to meet both these points, and the progress of its experiment will be watched with great interest in other parts of India, where, if the measure is successful, it might also be adopted.

The Calcutta Death-rate.

The total number of deaths registered in Calcutta during the week ending March 27th, 1909, was 1110, against 881 and 865 in the two preceding weeks, and higher than the corresponding week of last year by 232. There were 143 deaths from cholera, against 101 and 98 in the two preceding weeks; the number is higher than the average of the past quinquennium by 41. There were 61 deaths from plague, against 77 and 80 in the two preceding weeks. There were 446 deaths from small-pox during the week, against 305 in the previous week. There were 24 deaths from tetanus, against 19 in the previous week. The mortality from fevers and bowel complaints amounted to 162 and 24 respectively, against 76 and 45 in the preceding week. The general death-rate of the week was 68·0 per 1000 per annum, against 58·8, the mean of the last five years. The death-rate calculated on the estimated population was 58·4 per 1000.

Vaccination Fees.

Under the Bengal Vaccination Act natives who require the services of a public vaccinator (hospital assistant) at their houses have to pay 4 annas per head. Some of the middle-class Bengalis are now agitating to have this fee either abolished or reduced to a nominal fee of 1 anna, as they say that in large families vaccination involves an expenditure of more than some of them can bear. Many of the middle-class native women do not like to attend the local dispensary for vaccination, but prefer to be vaccinated in their own homes. The result of the present 4 anna fee, they state, is that they only get vaccinated once in their lives, revaccination being rare. This is a serious matter, as small-pox is practically endemic in parts of India, and revaccination every five years is desirable for those living in infected localities.

Plague in the Punjab.

Although plague is reported from a considerable number of districts in the Punjab, there is only one in which the mortality is really serious. This is the Ferozepur district, where between 400 and 500 deaths are occurring weekly, or more than one-fourth of the total in the province. Ludhiana, Lahore, and Montgomery districts and Patiala State each return about 100 deaths weekly. The mortality in the Punjab for the week ending March 20th was 1316, and since then there has been a slight rise, but the epidemic is happily much less severe than of late years. Its effect, therefore, upon the labour market should not be felt to any great extent, which is a fortunate circumstance, as a splendid harvest has to be reaped within the next few weeks.

Plague in Bombay.

The report of the Bombay health officer for the past quarter states that the mortality was lower by 1352 than in the corresponding quarter last year, and the difference in the figures between now and the mean of the corresponding quarters since plague began is very considerable. The report states that the destruction of rats, inoculation, and other preventive measures have been vigorously pressed. The large scale on which the rat campaign has been organised is shown by the fact that 100,000 rats were sent to Parel Laboratory for examination during the past quarter. Inoculation, however, does not become any more popular, and a smaller number of inoculations is reported than was performed in the corresponding quarter of last year. The report also shows that the port health officer and President of the Haj Committee have coöperated with the executive health officer in checking the spread of infection from small-pox brought by pilgrim ships from Jeddah.

Plague in the Central Provinces.

The Chief Commissioner of the Central Provinces in a recent communication to the Government of India drew special attention to those places in which plague persists, with the object of its extirpation and so preventing a spread from such places. The Inspector-General of Civil Hospitals is of opinion that unless endemic foci exist in Berar it must be held that the Central Provinces and Berar are annually infected from the Khandesh district of the Bombay Presidency, where the disease seems to linger practically throughout the year. Almost all the officers consulted agree in the opinion that plague is best held at a distance by (1) sanitary improvement; (2) systematic and continuous rat destruction; (3) prompt evacuation on the appearance of rat mortality; and (4) inoculation. The Inspector-General of Civil Hospitals holds the same opinion, and he recommends that measures (2) and (4) should be simultaneously practised. These measures are already put into practice and are receiving increasing attention, both by the Government and by local bodies. The special plague officer, Captain J. Morrison, though not able to fix precisely on any localities as foci, puts forward the unusual suggestion that in the towns of Akola and Khamgaon, the latter in the Buldana district of Berar, an examination of musk rats should be made during the period of abatement of human plague in order that the presence of plague infection among the rodents may be searched for and detected. This suggestion appears to contain a good practical means of arriving at some satisfactory data, for if it can be shown that during

the period of abatement of human plague the rats caught in such places as are suspected of being distributing foci are suffering from plague or have on them plague-infected fleas, and at the same time rats caught in non-suspected places are free, the Chief Commissioner thinks that a great stride forward will have been taken, and the administration may probably be in a position to concentrate its plan of campaign upon these foci of infection. The Inspector-General of Civil Hospitals recommends that this investigation should be carried out at the following localities in Berar: Amraoti, Badnera, Akola, Akot, Khamgaon, and Shegaon. The Chief Commissioner will direct that officer to take measures accordingly during the next plague abatement period.

Plague Returns.

These returns for the week ending April 10th show 4419 deaths, against 4684 in the week preceding. Bombay Presidency reports 731, Bengal 288, the United Provinces 687, the Punjab 2044, Burma 82, and the Central Provinces 81. The Rajputana returns show 471 deaths, but these are for a fortnight.

The Pasteur Institute of Southern India.

This institute is making steady progress. The second annual report shows that 340 cases were treated in the year 1908–09, as against 180 in the 11 months preceding. In these 340 cases there were only two failures, though two cases which developed hydrophobia during treatment are not included in the statistics. Of the total number of patients 51 were Europeans, 39 were Eurasians, and 253 were Asiatics. The report states that the institute buildings are still unfinished and cannot yet be taken over by the committee. The year opened with a balance of about 3000 rupees and a large debt due to the Madras Government, but the Government wrote off their outstanding claims against the institute, and the year closed with a credit balance of Rs. 94.3. In addition to the ordinary expenditure of the institute a sum of about Rs. 14,000 is required for additions to the plant and extension of the quarters provided for indigent patients.

April 27th.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of the Comitia of the Royal College of Physicians on April 29th and of the Council of the Royal College of Surgeons on May 13th Diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon the following candidates, who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Examining Board in England and have complied with the by-laws:—

Adolphe Abrahams, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Harold Wordsworth Leach Allott, Sheffield and Leeds Universities; Mukhtar Ahmed Ansari, B.A., M.B., Ch.B. Edin., Edinburgh University and Charing Cross Hospital; Richard Robins Armstrong, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Lee Atkinson, Guy's Hospital; Kenneth John Aveling, London Hospital; Bertram Friend Bartlett, University College Hospital; †Mark Bates, B.A. Oxon., Oxford University and St. Bartholomew's Hospital; Phirozshah Byramji Bharucha, L.M. & S. Bombay, Bombay University; Harold Ernest Bloxsome, St. Bartholomew's Hospital; Trevor Laurence Bomford, St. Bartholomew's Hospital; William Francis Bowen, University College Hospital; Harold Bowring, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Eldred Curwen Braithwaite, M.B., B.S. Durh., Durham University; Thomas Frederick Brown, Guy's Hospital; William Harold Butler, Leeds University; Frederick Goodman Caley, B.A. Cantab., Cambridge University and St. Mary's Hospital; Frederick Gordon Cawston, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Howard Dennis Clapham, Charing Cross Hospital; Alfred Joseph Clark, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; John Peter Clarke, Liverpool University; Kenneth Comyn, Cambridge University and King's College Hospital; Reginald Branch Dawson, L.M.S.S.A., Guy's Hospital; Canut Deuntzer, Middlesex Hospital; James Reid Dick, B.A. Cantab., Cambridge University and London Hospital; †Thomas Benjamin Dixon, University College, Bristol; Josiah Rowland Benjamin Dobson, B.Sc., University College, Cardiff, and St. Bartholomew's Hospital; Malcolm Donaldson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Archibald Wallace Duncan, St. Mary's Hospital; George Hunter Dunn, M.A. Cantab., Cambridge University, King's College and St. Mary's Hospitals; Leslie Wilson Evans, Durham University and Guy's Hospital; Thomas Evans, Guy's Hospital; Philip Charles Field, University College, Bristol, and Guy's Hospital; Howell Woodwell Gabe, Middlesex Hospital; Edward Brown Garrard, Birmingham University; Paul Knighton Gilroy, B.A. Cantab., Cambridge University and St. George's Hospital; Claude Gouldesbrough, M.A. Oxon., Oxford University and St. Thomas's Hospital; *George Aldon Greaves, Queen's University, Kingston, and London Hospital; Harry Spencer Hall, B.A. Cantab., Cambridge University and St. Thomas's Hospital; David John Harries, B.Sc. Wales, University College, Cardiff, and University College Hospital; Thomas Harrison, M.B., Ch.B. New Zealand, New Zealand University and Middlesex Hospital; Henry Hudson, Manchester University; Edward Pierce Llewellyn Hughes, Guy's Hospital; Robert Hilton Hutchinson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Victor Patrick Hutchinson, Guy's Hospital; Robert Stevenson Ingersoll, Michigan University and University College Hospital; Roger Percival Jones, University College, Cardiff, and University College Hospital; Charles Frederick Vivian Kebbell, St. Bartholomew's Hospital; Latafat Husain Khan, Bombay University and St. Bartholomew's Hospital; Henry Goff Kilner, Middlesex Hospital; Septimus Joseph Lee, Middlesex Hospital; *Arthur Salusbury MacNalty, Oxford University and University College Hospital; Reginald Hawksworth Mawhood, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; James Knowles Milligan, St. Thomas's Hospital; Howard Edward Hall Mitchell, Guy's Hospital; Edwin Bertram Morley, University College and London Hospitals; Harold Richard Moxon, Durham University and St. Thomas's Hospital; Naranji Ranchhodji Naik, Bombay University, King's College and St. Mary's Hospitals; Frederick Cecil Nichols, L.D.S. Eng., University College, Bristol; Ralph Daniel O'Leary, M.B., Ch.B. Melb., Melbourne University and Middlesex Hospital; Douglas George Spring Rice Oxley, London Hospital; George Frank Page, St. Bartholomew's Hospital; Robin Pearse, St. Bartholomew's Hospital; Lionel Banks Perry, Cambridge University and St. Thomas's Hospital; Roger Aiken Rankine, Guy's Hospital; Alexander Armstrong Rees, M.B., Ch.B. Liverp., Liverpool University; Edward Douglas Whitehead Reid, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Arthur Rhodes, Leeds University; Arthur Denys Rope, Middlesex Hospital; Frank Arthur Roper, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Arthur John Ryle, M.B., Ch.B. Edin., Edinburgh and Birmingham Universities; Frederick Francis Saldanha, L.M. & S. Bombay, Bombay University, King's College and University College Hospitals; Norman Guy Hawtrey Salmon, Charing Cross Hospital; August Carl Schulenburg, M.D. Washington, Washington University and Guy's Hospital; Charles Frederick Searle, B.A. Cantab., Cambridge University and Guy's Hospital; Norman Strahan Shenstone, B.A., L.M.S.S.A., M.D. Columbia, Columbia University; Samuel Shepheard, St. Thomas's Hospital; Henry Gordon Smith, St. Bartholomew's Hospital; Reginald Rutherford Smith, Manchester University and St. Bartholomew's Hospital; Ernest Richard Stone, B.A. Cantab., Cambridge University and Guy's Hospital; Thomas William Ramsden Strode, Charing Cross Hospital; William Francis Sutcliffe, St. Thomas's and Middlesex Hospitals; Harold Lindley Tasker, University College Hospital; Henry Ashbourne Treadgold, B.A. Cantab., Cambridge University and King's College Hospital; Rupert John Vernon, B.A. Cantab., Cambridge University and London Hospital; Donald Wainwright, Middlesex Hospital; Henry Cecil Waldo, University College, Bristol, and St. Bartholomew's Hospital; Gordon Reginald Ward, Westminster Hospital; Leonard Mortis Webber, Charing Cross Hospital; Mathias Wilhelm Eberhard Widegren, St. Thomas's Hospital; Walter George Wince, L.M. & S. Calcutta, Calcutta University and St. Bartholomew's Hospital; Robert Noel Woodsend, University College Hospital; and Thomas Strethill Wright, M.A. Oxon., Oxford University and St. Thomas's Hospital.

* M.R.C.S. granted on April 1st last.

† L.R.C.P. granted on May 13th last.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination in Anatomy and Physiology for the Diploma of Fellow held on May 6th, 7th, 11th, 12th, 13th, and 14th, 113 candidates presented themselves, of whom 40 per cent. were approved and 60 per cent. were referred. The following are the names of the successful candidates:—

James Wilmot Adams, B.A. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; Andrew Blair Aitken, M.B., Ch.B. Glasgow, Glasgow University and London Hospital; Emmanuel Caeton Alles, L.M. & S. Ceylon, Ceylon Medical College and King's College; Frederick William Aris, M.D., C.M. Bishop's College, Montreal, L.R.C.P., M.R.C.S., Montreal and London Hospital; Henry Leo Barniville, B.A. Royal University of Ireland, Dublin University; Richard Henry Barter, Queen's College, Cork; Henry Cuthbert Bazett, B.A. Oxon., Oxford University and St. Thomas's Hospital; James Leatham Birley, B.A. Oxon., Oxford University and St. Thomas's Hospital; Walter Rowley Bristow, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital; William Archibald Campbell, M.B., Ch.B. Glasg., L.R.C.P., M.R.C.S., Glasgow University and London Hospital; Anandrai Keshavlal Dalal, L.M. & S. Bombay, Bombay University and King's College; David Leighton Davies, M.D., M.S. Lond., L.R.C.P., M.R.C.S., Cardiff and University College Hospital; George Ernest Elkington, Birmingham University; John Henry Farbstein, M.B., B.S. Lond., L.R.C.P., M.R.C.S., University College; Thomas Gerald Fenton, L.R.C.P., M.R.C.S., St. Thomas's Hospital and King's College; George Ernest Oswald Fenwick, L.R.C.P., M.R.C.S., Otago University and University College; Ernest Frederick Finch, M.B., B.S. London, Sheffield University; Charles Morgan Finny, B.A. Royal University of Ireland, Dublin University; Vincent Glendinning, Guy's Hospital; Eric Lush Pearce Gould, B.A. Oxon., Oxford University and Middlesex Hospital; William Edwin Haigh, L.R.C.P., M.R.C.S., University College Hospital; John Prescott Hedley, M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Thomas's Hospital; William Thomas Hillier, L.R.C.P., M.R.C.S., D.P.H., Middlesex Hospital; Walter Goldie Howarth, M.B., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Thomas's Hospital; Ernest Ethelbert Hughes, M.B., Ch.B. Manchester, Manchester University; Herbert Max Levinson, M.B., B.S. Durham,

Durham University; James Barlow Macalpine, L.R.C.P., M.R.C.S., M.B., Ch.B. Manchester, Manchester University and London Hospital; Alexander Todd McCaw, L.R.C.P., M.R.C.S., New Zealand University and London Hospital; John Macoun, M.B. Toronto, Toronto University and Middlesex Hospital; William Henry Miller, M.B., B.S. London, L.R.C.P., M.R.C.S., Guy's Hospital; Shamrao Ramrao Moolgaokar, L.R.C.P., M.R.C.S., Bombay University and King's College; Nathan Mutch, B.A. Cantab., Cambridge University and Guy's Hospital; Clement Treves Neve, St. Bartholomew's Hospital; Robert Anstruther Ramsay, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Alfred Richardson, M.B., B.S. London, L.R.C.P., M.R.C.S., Leeds University; Charles Frederick Morris Saint, M.B., B.S. Durham, Durham University; Malcolm Leslie Scott, M.B., Ch.B. Adelaide, Adelaide University and London Hospital; Ambrose Spong, M.B., Ch.B. Leeds, Leeds University and London Hospital; Reginald Martin Vick, M.A., B.C. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; William Warwick Wagstaffe, B.A. Oxon., Oxford University and St. Thomas's Hospital; Albert Latimer Walker, M.B., Ch.B. Leeds, Leeds University; Lancelot Edward Barrington Ward, M.B., Ch.B. Edinburgh, Edinburgh University; John Helby Wilkinson, London Hospital; Andrew John Metford Wright, L.R.C.P., M.R.C.S., University College, Bristol, and King's College; and Frederick Cecil Wright, St. Bartholomew's Hospital.

At an ordinary meeting of the Council of the College on May 13th Licences to practise Dental Surgery were conferred upon 30 gentlemen who have passed the necessary examinations and have complied with the by-laws, viz.:—

Herbert George Bails, Middlesex and National Dental Hospitals; Malcolm Barker, Charing Cross and Royal Dental Hospitals; George Rowlands Boorer, Middlesex and National Dental Hospitals; Charles Harold Brangwin, M.R.C.S., L.R.C.P., Guy's Hospital; Reginald John Burton, University College, Bristol; Neville Dutton Clarke, Guy's Hospital; Cyril Allan Collis, Charing Cross and Royal Dental Hospitals; Sydney Garfield Connor, Charing Cross and Royal Dental Hospitals; Daniel Cowin, M.B., Ch.B. Victoria, Manchester University and Royal Dental Hospitals; Ernest William Frank Falkner, Charing Cross and Royal Dental Hospitals; Frank Leonard Furse, Guy's Hospital; Frederic Edwin Gill, Liverpool University; Claud Noel Hardman, Sheffield University; Walter Parker Harrison, Charing Cross and Royal Dental Hospitals; Humphrey Francis Humphreys, Birmingham University; James Pensam Leeming, Manchester University; James Norman McNaught, Liverpool University; Reginald Charles Morgan, Guy's Hospital; Leopold Kepler Percy, Charing Cross and Royal Dental Hospitals; James Frederick Place, Manchester University; Arnold Renshaw, B.D.S., L.D.S. Manchester, Manchester University; George Henry Rowley, Guy's Hospital; Harold Gordon Spain, Guy's Hospital; Eric Le Masurier Spurgeon, Charing Cross and Royal Dental Hospitals; James Alfred Wyllys Stuart, Guy's Hospital; Arthur George Trott, Charing Cross and Royal Dental Hospitals; Reginald Wildblood Ward, Liverpool University; Walter William Whittington, Charing Cross and Royal Dental Hospitals; George Kerry Wild, Birmingham University; and Douglas Herbert Walker Williamson, Aberdeen University, Middlesex, and Royal Dental Hospitals.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed the Primary Dental Examination:—

D. J. Doolin, A. R. Mallet, and R. K. Mulderry.

The following have passed the Final Examination and have been admitted Licentiates in Dental Surgery:—

R. S. H. Drabble, H. A. E. Noble, and L. P. Schlegel.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Alfred Neumann, Director of the Surgical Department of the Friedrichshain Hospital, has been granted the title of Professor.—*Bonn:* Dr. Reichenbach of Breslau has been appointed Extraordinary Professor of Hygiene, in succession to Dr. Kruse, who goes to Königsberg.—*Budapest:* Dr. Paul Kuzmik, *primarius* of the Surgical Department of St. John's Hospital, has been promoted to the chair of Surgical Operations.—*Clausenburg:* Dr. Josef Imrie has been appointed to the chair of Ophthalmology.—*Giessen:* Dr. Johann Georg Mönckeberg, *privat-docent* of General Pathology and Pathological Anatomy, has been promoted to an Extraordinary Professorship.—*Halle:* Dr. Fritzel has been appointed to the charge of the Aural Polyclinic, in succession to Dr. Schwartze.—*Munich:* Dr. Robert Rössle has been appointed Prosector of the University Pathological Institute.—*Tübingen:* Dr. Bruno Fleischer, *privat-docent* of Ophthalmology, has been promoted to an Extraordinary Professorship.

SCHOOL CANTEENS.—The report of the canteen sub-committee of the Hastings education authority on the working of the Education (Provision of Meals) Act, 1906, has been issued. The committee has no reason to be dissatisfied with its work. From Nov. 2nd, 1908, to March 31st, 1909, no fewer than 60,706 meals were provided. The total cost of food was £367 4*s.* 1*d.*, and the cost per meal (food only) 1·45*d.* The meals provided were breakfasts, and it was found that the children so fed were far more eager for their studies than heretofore. Every assistance was given by numerous voluntary agencies, and care was taken to prevent any relaxation of parental duty and responsibility. As the actual charge to the rates was the cost of the food only it cannot very well be said that the meals were a noticeable burden to the rate.

GUY'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON).—Mr. R. A. Chisholm has been appointed Greville Research Student for research in connexion with the subject of cancer.

DURHAM UNIVERSITY MEDICAL GRADUATES' ASSOCIATION.—The annual meeting and dinner of this association will take place on Friday, May 28th. The meeting will be held at 4 P.M., at 11, Chandos-street, W., and the dinner at the Café Royal, Regent-street, at 7.30.

THE May dinner of the Edinburgh University Club of London will take place at the Criterion Restaurant on Friday, May 28th, at 7.30 o'clock, Mr. S. H. Butcher, M.P., being in the chair. The Lord Advocate, Sir Henry Craik, M.P., and Mr. Barry Pain, are amongst the guests who have accepted invitations to be present.

WEST LONDON POST-GRADUATE COLLEGE.—The annual dinner of the Post-Graduate College and Past and Present West London Hospital will be held on Wednesday, June 16th, at the Trocadéro Restaurant, Piccadilly-circus, W., at 7 for 7.30 P.M. The chair will be taken by Dr. P. S. Abraham. The price of the dinner ticket is 7*s.* 6*d.* (exclusive of wine) and all past and present members of the hospital are invited to attend, and tickets may be obtained upon applying to the Dean of the College, Mr. L. A. Bidwell.

MIDWIVES ACT COMMITTEE.—The twelfth meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act, 1902, was held at the Privy Council Office on May 12th, Mr. Almeric W. FitzRoy, the clerk of the Council, being in the chair. The following witnesses attended: Mr. Sydney Stephenson, F.R.C.S. Edin.; Dr. Sidney Barwise, county medical officer of health of Derbyshire, on behalf of the public health committee of the Derbyshire county council and on behalf of the Midland Medical Union; and Mr. Walter Schröder, deputy coroner, County of London Central District. The thirteenth meeting of the Committee was held at the Privy Council Office on May 19th. The following witnesses attended: Dr. A. Rivers-Willson, Mr. E. Parker Young, and Mr. J. Theodore Dodd.

THE FRENCH HOSPITAL: THE ANNUAL DINNER.—The annual dinner of the French Hospital was held at the Hotel Cecil on May 15th. His Excellency the French Ambassador presided, and was supported by the Spanish Ambassador and many other members of the "Corps Diplomatique." The Lord Mayor and Sheriffs were also present, and about 300 subscribers. Among the members of the staff of the hospital were Dr. George Ogilvie, Mr. Edmund Owen, Dr. L. Vintras, and Dr. H. Dardenne. In proposing the toast of the evening His Excellency announced that the very large sum of £4820 had been collected and this in spite of the present financial depression. He eulogised the untiring energy of the stewards, specially mentioning the large sums collected by Mr. A. Judah and Mr. E. Roehrich, both members of the committee. He also congratulated Mr. Pondepeyre, the secretary of the hospital, on his skilful management of the expenditure during the past year. In fact, the weekly expenditure on in-patients, apart from out-patients, was less than in any other hospital in London. The toast of the "Corps Médical" was responded to by Mr. Edmund Owen in felicitous terms, and to demonstate how well the patients were fed he invited any gentleman present to come to lunch at the hospital, provided they did not all select the same day. Dr. Ogilvie's name was not on the toast list, but on being asked by the French Ambassador to make a few remarks he said:—

J'ai toujours suivi le principe du pauvre Coquelin, qui disait: "Je n'entreprends jamais un rôle avant de l'avoir étudié à fond." Ce soir je me trouve dans l'obligation de manquer à ce principe; car, un simple désir de son Excellence est un ordre pour moi, et bien que n'ayant pas étudié mon rôle, je vais tâcher de balbutier quelques paroles. Je me sens ce soir comme un métaphysicien écossais. Savez-vous, Messieurs, ce que c'est qu'un métaphysicien écossais? C'est un aveugle, cherchant à tâtons, dans une chambre obscure, un chat noir, qui ne s'y trouve pas. Mon crâne c'est la chambre obscure, et mes idées le chat noir. En effet, Messieurs, mes pensées s'en sont allées, comme à l'automne les feuilles jaunes tombent du chêne; elles s'en sont allées dans l'azur

léger, et comme un songe éphémère, elles n'ont laissé derrière elles—aucune trace. Me trouvant dans une telle condition, ce que j'ai de mieux à faire, c'est de m'asseoir, et de me taire. Avant cela cependant, permettez moi de vous donner mon opinion sur les devoirs d'un médecin. Son premier devoir c'est de prévenir le mal; s'il n'y réussit pas—de le guérir; et s'il n'y réussit pas non plus—de soulager la souffrance et de prolonger la vie. Je finirai, Messieurs, en répétant les mots, non d'un métaphysicien écossais, mais d'un grand mathématicien français—Descartes—"S'il est possible de perfectionner l'espèce humaine, c'est dans la médecine qu'il faut en chercher les moyens."

The proceedings then terminated.

PRESENTATION TO A MEDICAL MAN.—The officers and staff of the Devon County Asylum, Exminster, have presented Mr. Arthur Nathaniel Davis, L.R.C.P., L.R.C.S., L.M. Edin. (the medical superintendent), and Mrs. Davis with a solid silver centre piece and four vases, as a mark of respect and esteem on the occasion of the celebration of their silver wedding.

DONATIONS AND BEQUESTS.—The Sheffield Town Trustees have made grants of £2000 to the Jessop Hospital for Women and £1000 to the Queen Victoria Nursing Association.—Under the will of the late Lieutenant-Colonel James Miller the Radcliffe Infirmary, Oxford, will receive £500.—By the will of the late Mr. Robert Low the Westminster Hospital and the Brompton Hospital for Consumption and Diseases of the Chest will receive £500 each, and St. Mary's Hospital, Paddington, and the West London Hospital, Hammersmith, £200 each.

JUBILEE NURSING CONGRESS.—A jubilee congress of district nursing was held in Liverpool on May 13th, the present year being selected on account of the late Mr. William Rathbone having inaugurated an organisation of trained district nurses in that city in 1859. The proceedings of the congress were conducted in three sections dealing respectively with: (1) the history of district nursing; (2) maternity work in connexion with district nursing; and (3) coöperation with boards of guardians, charity organisations, and public health departments. In the first section three of the 12 speakers were Miss Amy Hughes, the Countess of Aberdeen, and Mr. W. J. P. Giddings (editor of the official journal of the Royal British Nurses' Association in Australia). In the second section, which was presided over by Dr. Richard Caton of Liverpool, Dr. Helme read a paper and a number of ladies spoke. In the third section, at which Princess Louise and the Duke of Argyll were present, papers were read by Dr. Arthur Shadwell, Dr. E. W. Hope, and Mr. D. F. Pennant. There was a very large attendance, including delegates from British colonies, from the United States of America, and from many parts of continental Europe. In the evening there was a reception at the Art Gallery.

DEATH FROM VERONAL POISONING.—An inquest was held recently at Uxbridge on the body of a man who was alleged to have died from an overdose of veronal. It appears from the evidence at the inquest that the deceased had been in the habit of taking veronal tablets to induce sleep, and that subsequent to an attack of influenza he had suffered from severe pains in the head as well as from great depression, to combat which he took increased doses of the drug. One witness (a maidservant of the deceased) stated that her master told her that he had taken 124 grains of veronal. Dr. F. E. Walker, who attended the deceased, said that the man could not have taken more than 100 grains, as the box and bottle produced would not contain more than that quantity. When he was called to the deceased (some hours after he had taken the large dose) he found him comatose. He remained in that condition until he died two days later. Dr. Walker further said that he understood the deceased had been in the habit of taking four tablets a night, which was equivalent to 30 grains. He considered death to be due to the overdose of veronal. Further evidence was brought forward which showed that the large quantity of the drug had been taken accidentally, and a verdict of "Death by misadventure" was returned. We call attention to this case as of late there have been several instances of the causation of toxic symptoms by veronal. It seems probable that in the present instance the blame of the occurrence must rest with its victim in taking a lethal amount of the drug. But unpleasant effects have been observed from more reasonable doses, and it seems necessary to utter a warning that the administration of this as of all other hypnotics, should be closely watched. The public appear to be too fond of prescribing veronal for themselves.

A CORNISH CENTENARIAN.—Mr. James Carne, parish clerk of St. Columb Minor-with-Newquay, celebrated the 103rd anniversary of his birthday on May 3rd.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. G. L. Wynkoop, an eminent New York surgeon, from appendicitis.—Dr. Frank W. Draper, professor of forensic medicine in Harvard University.—Dr. Sockeel, formerly surgeon to the Douai Hospital.—Dr. Dujardin-Beaumetz, formerly inspector-general of the French Army Medical Service.—Dr. Albert Guttstadt of Berlin, Privy Medical Councillor and senior member of the Department of Medical Statistics. He enjoyed also the titular rank of professor. Most of his published works were of a statistical character, but he wrote festal essays for the Natural Science Congress of Berlin, 1890, and for the Chicago Exhibition in 1893 and "dictionaries" of Prussian and German hospitals. He founded, and assisted in founding, a number of societies of a medical and charitable nature, and was much interested in all sanitary and temperance movements.—Dr. Stecoulis, the medical adviser of the Dutch Legation and the Dutch delegate on the Board of the Sanitary Council at Constantinople, died last week. He was a well-known personality in the European circles of Pera and for a long time acted as President of the Imperial Society of Medicine.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The State Registration of Nurses.

Mr. ASQUITH's reception of the deputation on the State registration of nurses was courteous. In his reply he maintained a certain degree of reserve, and he committed himself to no course of action. He only promised careful and sympathetic consideration of the arguments put before him. What the deputation precisely asked was that the Government should give Parliamentary facilities to the Nurses' Registration Bill recently introduced into the House of Commons by Mr. MUNRO-FERGUSON, but at present marked "dropped" in the official papers of the House. Sir VICTOR HORSLEY argued that the Bill had behind it a great volume of opinion in the medical profession. Mr. ASQUITH put several questions to him to elicit the strength of medical opinion on the subject, but although the cross-examination was somewhat searching the Prime Minister afterwards characterised Sir VICTOR HORSLEY's speech as a very able one. Replying to the contention that the Bill was practically uncontroversial, Mr. ASQUITH enumerated a number of hospital authorities who were opposed to it, in addition to a section of medical men. What attitude the Government will take up towards legislation on the subject is obscure. Some time ago a suggestion was made that all three Bills relating to the registration of nurses should be read a second time, and referred *en bloc* to a select committee to examine and report upon. This course would not be incompatible with the reply of the Prime Minister. At the same time it must be evident to all observers of current Parliamentary affairs that the programme of the Government is so full this season that Mr. ASQUITH is little likely to give any facilities to Bills of private Members which do not command complete unanimity in all quarters of the House of Commons.

Medicines and the Spirit Duty.

Mr. LLOYD GEORGE has received representations on the increased duty on spirits from the Pharmaceutical Society of Great Britain. The increase of duty is reflected in the increased price of certain medicines.

Medical Men and the Petrol Duty.

It is not improbable that a deputation will be received by the Chancellor of the Exchequer with the object of discussing the peculiar case which medical men who use motor-cars have for an abatement of the petrol duty. The time of Mr. LLOYD GEORGE is well allocated up to the Whitsuntide holidays, and it is understood that he is not free to receive such a deputation until these are concluded.

The Royal Commission on Whisky.

The Royal Commission on Whisky and other Potable Spirits will probably present its report in a very few weeks. It has heard all the evidence which it is desired to take, and Lord JAMES of HEREFORD, the chairman, has intimated that no time will be lost in formulating the report. As the Commissioners showed by their interim report in June of last year, they have reached definite conclusions on the applicability of the term "whisky" to various products of distillation. Their final report will show how they regard the limitations expressed by such terms as "Scotch whisky," "Irish

whisky," "grain whisky," and "malt whisky." The Commissioners inquiry included other potable spirits besides whisky. They heard evidence on brandy, rum, geneva, and gin. A portion of their report will therefore contain passages relating to these spirits.

Local Education Authorities (Medical Treatment) Bill.

This Bill, which proposes to enable local education authorities to recover the cost of the medical treatment of children provided under Section 13 of the Education (Provision of Meals) Act, 1907, has passed through one of the Standing Committees of the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, MAY 12TH.

Milk Legislation.

Mr. STANIER asked the President of the Local Government Board when the Government would bring in its milk legislation.—Mr. BURNS replied: I cannot fix a date at present, but I shall introduce the Bill as soon as I can.

Mr. SNOWDEN: May I ask whether the right honourable gentleman is aware that more than 12 months ago certain clauses in a great number of municipal Bills dealing with milk were withdrawn on the distinct understanding that a Milk Bill would be introduced last session and whether he can in view of the importance of this matter give a definite undertaking that the Bill will be introduced soon.—Mr. BURNS: The reason for the delay which has occurred was that both the Local Government Board and the Board of Agriculture hoped by an Order of the Board of Agriculture to remove three-quarters of the objections which would be raised on the discussion of the Bill.

THURSDAY, MAY 13TH.

Mr. H. C. Ross and the Egyptian Sanitary Service.

Mr. RAMSAY MACDONALD asked the Under Secretary of State for Foreign Affairs whether Mr. H. C. Ross had to leave the Egyptian Sanitary Service owing to his zeal for stamping out malaria; and if that was not the reason, would he inform the House what the reason was.—Mr. MCKINNON WOOD replied: Mr. H. C. Ross was never in the permanent employment of the Egyptian Department of Public Health. He resigned his temporary post under that department when he learnt that the Director-General was not prepared to promise him a permanent post in the inspectorate in Cairo.

Seizure of Foreign Meat at Grimsby.

Mr. STARKEY asked the President of the Local Government Board whether he was aware that a seizure of foreign imported meat had been made by the authorities at Grimsby and that it included the tuberculous carcasses of pigs and other meat in a state of fermentation; and, seeing that some of the crates bore the guarantee of a foreign Government that the meat was sound and fit for human consumption, whether he would say what action he proposed to take.—Mr. BURNS replied: I am aware that there has been a seizure of imported foreign meat at Grimsby and I am making inquiry with regard to the matter.

The Incomes of Vaccination Officers.

Mr. CAVE asked the President of the Local Government Board whether he had ascertained what effect the Vaccination Act, 1907, and the Vaccination Order, 1907, had had upon the incomes of vaccination officers; whether he was aware that certain boards of guardians had refused to entertain an application from their vaccination officers that the board should apply to the Local Government Board for permission to pay a gratuity to the officers in order to recoup them for their loss of income arising from the operation of the Vaccination Act, 1907, and the Vaccination Order, 1907; and, if so, what action he proposed to take in the matter.—Mr. BURNS wrote in reply: I have received representations with regard to the effect of the Act of 1907 upon the incomes of vaccination officers. The matter does not appear to be one for any general action, but in some instances the guardians have, with the consent of the Local Government Board, made additional payments to the officers affected, and in some others where complaint has been made to the Board, they have communicated with the guardians and have made such suggestions as in the circumstances seemed to be desirable.

STATE REGISTRATION OF NURSES.

A deputation, organised by the Society for the State Registration of Trained Nurses, was received by the Prime Minister in his private room at the House of Commons on May 13th. The object of the deputation was to urge Mr. Asquith to give Parliamentary facilities for the Nurses' Registration Bill which was introduced into the House of Commons this session by Mr. Munro-Ferguson, and which is identical with the measure which under the charge of Lord Ampthill passed through the House of Lords last year. The deputation consisted of members of the medical and nursing professions and of Members of Parliament. The deputation included Lord Ampthill, Mr. Munro-Ferguson, M.P., Sir Victor Horsley, Sir William Macewen, Dr. V. H. Rutherford, M.P., Mr. Rainy, M.P., Sir Luke White, M.P., Mr. Ramsay Macdonald, M.P., Mr. Crooks, M.P., Mr. Smeaton, M.P., Mr. Field, M.P., Miss Stewart (St. Bartholomew's Hospital), Dr. Bedford Fenwick, and Miss M. Huxley (Dublin). The Prime Minister was accompanied by Mr. Herbert Samuel, M.P., and several officials of Government Departments.

Lord AMPTHILL introduced the deputation and explained to the Prime Minister that the movement for the State registration of nurses had been in progress for the past 20 years. It had received very considerable support from various professional bodies concerned in the subject. In 1889 the General Medical Council passed a resolution that legislation for the State registration of trained nurses was desirable. The principle had also been approved of several times by the British Medical Association, and in 1905 a Select Committee of the House of Commons reported that it was desirable that a register of nurses should be kept by a central body. This movement was primarily an educational one and its object was to ensure that the community might have a guarantee that the trained nurses who were employed in cases of sickness were skilled in their professional duties. That was not the case at present. The evil was that there was no standard. There was no means of discriminating between the value of the various kinds of certificates which were issued by the different hospitals and training schools. The public could discern no difference between the certificate from a small private hospital and one given by a great general hospital where a long and varied experience was given. This condition of affairs was as unfair to the nurse as to the public at large. What those for whom he was speaking wanted was to have nurses put on the same footing as members of other professions who stood in an analogous relation to the public. He instanced the medical and dental professions and midwives.

Mr. ASQUITH: What do you want us to do? To bring in a Bill?

Lord AMPTHILL: No, Sir; not to bring in a Bill but to give us facilities for one.

Mr. ASQUITH: Is there any Bill now pending before either House?

Lord AMPTHILL: There are three Bills at present. There is Mr. Munro-Ferguson's Bill. There is Mr. Findlay's Bill and the Scottish Bill. That is Mr. Cleland's Bill.

Mr. MUNRO-FERGUSON: May I explain? My Bill is not technically before the House. It could be revived at 24 hours' notice.

Lord AMPTHILL went on to say that the question involved must be classified as one of social reform. He appealed to the right honourable gentleman to grant facilities for the passing of legislation on this important subject of the registration of nurses.

Sir VICTOR HORSLEY said that he appeared as representing the British Medical Association. The Association had on repeated occasions passed resolutions practically unanimously approving of the principle of the registration of nurses.

Mr. ASQUITH: You do not say that there is anything like unanimity on the subject.

Sir VICTOR HORSLEY: Very nearly.

Mr. ASQUITH: Do you say that?

Sir VICTOR HORSLEY: Certainly. At an annual representative meeting of the British Medical Association a resolution in favour of the State registration of nurses had been carried by 90 votes to 3.

Mr. ASQUITH: You say that represents the medical profession?

Sir VICTOR HORSLEY: I say that the British Medical Association is the only association which can represent the medical profession. He added that the Association had a membership of 20,000 out of the 30,000 medical practitioners in the country. It was practically unanimous on this question on several occasions. When it was borne in mind that those 20,000 practitioners sent elected delegates to a representative meeting he thought it was entitled to speak the voice of the profession. Even if it were to be admitted that the British Medical Association did not represent the medical profession, it was nevertheless the only body in the profession which had taken the trouble to refer Bills on the subject of the registration of nurses to a committee to study the subject. The principle which was involved in the two Bills on the registration of nurses (Mr. Munro-Ferguson's Bill and Mr. Findlay's Bill) was the principle which the British Medical Association laid stress upon. It was that the qualification of nurse should no longer be left at the mercy of a private individual or institution. The time had come when it was in the interest of the public, the medical profession, and the nurses themselves that the guarantee should be a State guarantee. The Scottish Bill (Mr. Cleland's Bill) did not embody this principle. It left the question of the guarantee of qualification practically to the teacher alone. The British Medical Association held that the guarantee ought to be given after a properly constituted examination of all nurses who come up to be examined.

Mr. ASQUITH: Where would they be examined?

Sir VICTOR HORSLEY: At various points throughout the United Kingdom.

Mr. ASQUITH: Is that provided in the Bill?

Sir VICTOR HORSLEY: Yes.

Mr. ASQUITH: Can you refer me to any clause in the Bill?

Lord AMPTHILL: Yes. The Council would have power to arrange the examinations. They can be held in various centres. Clause 10 of Mr. Munro-Ferguson's Bill provides that.

Sir VICTOR HORSLEY: It is purely a matter of administration. Under the legislation which the deputation was asking for the public would have a State guarantee that the registered nurse alone was fit to nurse. He wished to have the nurse properly equipped in knowledge and to have that sanctioned by a State guarantee. Those for whom he spoke desired more than that. They wanted the professional status of the nurse and the discipline of the nursing profession to be secured. From the experience of the General Medical Council they could only obtain that by having a body like the Council in whose hands would be placed the discipline of the nursing profession. They believed that it was only by establishing such a council that they would put an end to the evil of unqualified medical practice by nurses which at present constituted a danger to the public and a scandal in the ranks of the nurses themselves. He wished to add that the British Medical Association sympathised very much with nurses in the promotion of their own interests. It felt that if a nurse had worked hard for three years and had had a satisfactory course of education and passed an examination she was entitled to receive a guarantee from the State that she was fully qualified. With regard to the English Bills, those for whom he spoke also felt that the nurses should have an even voice in the election of those who were to govern them.

Dr. BEDFORD FENWICK pointed out that the great difficulty at present was to trace nurses after they had filled their hospital appointments. From that it followed that it was easy for nurses who were insufficiently trained to pose as trained nurses. A great many evils flowed from that, against which it was impossible for the public to protect themselves. There were three Bills before Parliament. With regard to the Bill which passed through the House of Lords last year and was this session introduced into the House of Commons by Mr. Munro-Ferguson, its principles had been accepted by the Privy Council, the Local Government Board, the Admiralty, and the War Office. The second Bill had been good enough to flatter the first Bill by taking most of its clauses wholesale. He thought the only material difference was that the second Bill (Mr. Findlay's) wanted a larger council. It proposed a council of 27, but the Privy Council said that the General Nursing Council should not contain more than 16 members. The second Bill also wished for a lower fee for the examination. The third Bill applied to Scotland alone, but Sir William Macewen, the distinguished Scottish surgeon, had been good enough to accompany the deputation in order to express Scottish feeling in regard to this question.

Sir WILLIAM MACEWEN said that not being a member of either of the societies promoting the two British Registration of Nurses Bills at present before Parliament, he would have had no place on the deputation had it not been for the very cordial invitation extended to him from

various quarters on the understanding that he was to express his own views and those of a considerable number of medical men and nurses in Scotland relative to State registration. They were entirely in accord with the aim of both British Nurses' Registration Bills in desiring to secure State registration of nurses by a single portal system for the United Kingdom. They desired to obtain for the nurses a recognised standard of teaching and examination for the three kingdoms and that all nurses placed on the British Nurses Register would have equal rights to practise as nurses in any part of Great Britain. The reason why so many nurses recorded their votes for separate registration for Scotland was due to the widespread misapprehension of the clauses of the British Bills. Most of the Scotch nurses had at that time not seen the British Nurses Bills, and the statements which were current concerning them were erroneous and misleading, such for instance that the Scotch nurses would require to go to London to be examined, thus causing them to incur a considerable expense. In neither of the British Bills before Parliament was there such a proposal. On the contrary, each of these Bills had clauses dealing with the establishment of examining boards at different centres throughout the kingdom, and the Royal British Nurses' Association had already had this arrangement at work. For instance, a board under its control with examiners from England and Scotland sitting conjointly had held examinations in Glasgow and performed their work in a thoroughly practical and efficient manner. The result of explaining the character of the British Nurses' Registration Bills by means of distribution of copies of these Bills and by letters to the local press had been a decided change in the attitude of the Scottish nurses towards the one portal system for the United Kingdom, so that many of those who previously signed in favour of the separate Scottish Registration Bill had now signed in favour of a single portal system. As an example he instanced one hospital in Glasgow having about 150 nurses on the staff, the majority of whom had previously signed for separate registration for Scotland; 120 of these had now signed in favour of a single portal system for the United Kingdom. In addition, the superintendent, the matron, and the assistant matrons had each supported the movement. This was not an isolated instance. In Glasgow alone they had had about 600 signatures of medical men and nurses in favour of a single portal system for the United Kingdom. A separate Scottish Bill would act as a barrier to the progress of the Scottish nurse. If the Scottish nurses were to have separate registration that would confine them to Scotland. If they desired to practise in England they would require to pass a second examination in order to be admitted to the British Register. A reciprocal clause of registration would not likely be passed as it would meet with strong opposition from the predominant partner who was not benefited by such reciprocity and probably would be damaged thereby. Even were such reciprocity granted legally it would not do away with the feeling which would be aroused that the Scottish nurses did not pass the British standard of examination, and such statement would not facilitate the gaining of appointments for Scottish nurses south of the Tweed. It would be stupid for a Scottish nurse going with a patient from Scotland to England to become suddenly an unregistered nurse with no recognition as a trained nurse the moment she crossed the border. The Scottish nurses were quite prepared to welcome and to pass the highest standard of examination that might be instituted by the boards appointed through the agency of the British Bills, and they claimed along with their English and Irish sisters equal rights of exercising their profession in any part of the United Kingdom so that they might have the opportunity of gaining such positions as their merits might secure.

Miss STEWART explained some of the reasons why the present position of affairs was most detrimental to trained nurses. She argued that State registration with the power of a council to enforce a professional discipline amongst nurses would be conducive to the public good.

Miss HUXLEY spoke of the desire for State registration amongst the nursing profession in Ireland. She and her colleagues in Ireland considered that it was essential that a central governing body should be empowered to fix a minimum standard of nursing education.

Mr. FIELD, M.P., assured the Prime Minister that all parties in Ireland were agreed on this subject.

Mr. ASQUITH: That is very suspicious, Mr. Field.

Mr. FIELD, continuing, said that the subject was really non-contentious, and if the Prime Minister would use his influence there would be little or no opposition to legislation. Of course, there were always a few sore heads in the community, but the vast majority of all parties in the House of Commons would support legislation.

Mr. ASQUITH, in reply, said that he had been pleased to have had an opportunity of receiving so important and representative a deputation and of listening to the views expressed by members of it on a subject with which he had not first-hand familiarity. He understood that the object of the legislation which the deputation was promoting was to provide by means of a representative council the machinery for the examination of persons who were taking up the nursing profession, to set up a register upon which the names of only those persons who had satisfied the examination test should be inscribed, and to provide under penal sanctions that thereafter no one should claim or assume to practise as a registered nurse who had not satisfied that test and had not come on the register. That would not in the least prevent, as he understood the proposal, other persons who had not complied with this test from pursuing the profession of nursing. It would not be the necessary effect of this legislation, as he gathered from what Sir Victor Horsley had said in his very able speech, that the nurse recognised by the State was the only person fit to nurse. The unregistered person, the free-lance, if he might so describe her, would still be in a position to pursue her profession and carry on her calling.

Sir VICTOR HORSLEY: The public will take her at their own risk.

Mr. ASQUITH: As they do now. She would not be entitled to describe herself directly or indirectly as a registered nurse. All present were agreed as to the importance—the growing importance—and the dignity of this great profession of nursing, and as to the magnificent and indispensable services that it rendered to the medical profession and to the cause of humanity in this country. He was certain there was not a man or woman amongst them who did not wish to see it kept up to the highest possible standard of efficiency as regarded skill and character. Every step in that direction would command not only the sympathy of all parties in the State but of every citizen who cared for his country. Here, however, he had to deal with the question whether the particular machinery suggested was the best adapted to promote that end. When Mr. Field told him that England, Scotland, and Ireland were united with the deputation in desiring legislation on the lines which had been laid down that afternoon he was bound to have regard to reports which came to him from other quarters. What did he find? He had got before him a list of representative persons whose opinion was entitled to considerable respect but who were opposed to this legislation. He was not going to read the names of individuals, but the list included the chairman of the Westminster Hospital, the vice-president of the Royal Free Hospital, the chairman of the Middlesex Hospital, the chairman and treasurer of the London Hospital, the chairmen of St. Mary's Hospital, the Hospital for Sick Children, the University College Hospital, the West-End Hospital for Diseases of the Nervous System, the Royal Victoria Hospital, Newcastle-on-Tyne, and King's College Hospital, the treasurer of St. Thomas's Hospital, the treasurer of St. George's Hospital, and a number of signatures from other hospitals.

Mr. FIELD: You have none from Ireland.

Mr. ASQUITH: But when I am told that you have all the authorities in your favour, the enumeration of that list is good enough to show that is not quite the case. The right honourable gentleman continuing said that he had also got before him a list of the names of a hundred members of the medical profession in London, including some of the most eminent members of the profession, in many departments, particularly in obstetrics and in many departments of surgery, and of associating like 120 members of the profession of the highest distinction in the provinces who were opposed to legislation of the kind which the deputation was promoting. He had in addition before him the names of 49 matrons in London hospitals and 109 matrons in provincial hospitals who were also opposed to it. He could not, therefore, possibly regard this as a unanimous demand on the part of those persons interested in hospitals, surgery, or nursing. The deputation would therefore agree with him that the Government must look upon the matter as quite controversial. It was not possible to treat this as one of those subjects on which all persons were agreed and on which legislation went through by general consent. Under those circumstances he did not think the deputation could expect him to do more than to promise to give most careful and respectful consideration to the arguments which had been put before him. He had not heard the other side, but he admitted that these arguments *primâ facie*, at any rate, were very cogent arguments indeed. Having regard to the composition of the deputation and the authority which it possessed, he could assure the members of it that their arguments would be most carefully and sympathetically considered by his colleagues and himself. But for the time being, in view of the facts which he had stated, the Government could not regard this as other than a question which required very detailed examination in view of all the interests concerned.

The deputation then withdrew.

MONDAY, MAY 17TH.

The Sanitary Services in India.

Sir WILLIAM BULL asked the Under Secretary of State for India whether the scheme proposed by the Government of India in its letter to the Bombay Government of Dec. 4th, 1907, on the subject of the improvement of the sanitary services in India and of the development of the existing establishments, was completed; and whether any, and if so what, special provisions were made therein to give effect to the view set forth in that letter that a sanitary service offered a suitable and congenial career for educated natives of the country, and that by fully utilising that source of supply the Government would avoid the expense of materially enlarging the Indian Medical Service.—Mr. HOBHOUSE (on behalf of Mr. BUCHANAN) replied: The scheme has not yet been completed. The Secretary of State attaches great importance to the inclusion in any such scheme of special provisions of the kind to which the honourable Member refers.

Medical Examiners in the University of Madras.

Mr. KETTLE asked the Under Secretary of State for India whether he could state the number of examiners for the medical degrees of the University of Madras; how many of them were Indians; and what was the remuneration received by each.—Mr. HOBHOUSE furnished the following written reply: The examiners are appointed by the University authorities and the Secretary of State has no official information as to their number or the remuneration received by them; but it appears from the Calendar of the Madras University for 1908-09 that in that year there were 15 examiners for medical degrees, of whom one was an Indian.

The Indian Medical Service.

Mr. KETTLE asked the Under Secretary of State for India whether the higher grades of the medical service of the Native States of India were generally filled by Indians to the satisfaction of the Government and the public; whether less than 10 per cent. of such positions in British-India were held by Indians; and whether he was aware that the exclusion of native Indians from these well-salaried posts was regarded in India as part of the settled policy of the Indian Government.—Mr. HOBHOUSE forwarded the following written answer: The Secretary of State has no detailed information on the first point, but he has no reason to doubt that the answer is in the affirmative. As regards the proportion of Indians in the Indian Medical Service, the honourable Member is no doubt aware that that service is recruited by competitive examination and is freely open to natives of India. It is further the policy of the Government to encourage the growth of an independent medical profession in India, and to throw open to the profession in general some of the appointments now held by members of the Indian Medical Service. The Secretary of State proposes shortly to present to Parliament papers on this subject.

Civilian Medical Practitioners and Military Medical Duties.

Earl PERCY asked the Secretary of State for War whether a number of civilian medical practitioners were employed for military medical duties at salaries of £150 a year or more; and whether the services of military medical officers on the retired list were available for the performance of these duties.—Mr. HALDANE furnished the following reply: One civilian medical practitioner is employed at a fixed salary of £150 a year. Others are employed at various small stations with remuneration at capitation rates and the total fees in some instances and at some periods amount to £150 a year or more. In cases where a saving would be effected and retired officers can be found who are willing to undertake the work, appointments are offered to these officers at a fixed salary

under Article 449 of the Royal Warrant for Pay, &c. About 70 retired officers are so employed.

TUESDAY, MAY 18TH.

The Mentally Deficient in Workhouses.

Mr. CLYNES asked the President of the Local Government Board whether in view of the evils arising from the position of thousands of mentally defective persons in workhouses and the recommendations of the Poor-law Commission thereon, the proposals of the Commission had been considered by the Government, and also whether some early action could be taken in the matter.—Mr. BURNS answered: At present I can only say that the recommendations of the Royal Commission on this and other matters are engaging the attention of the Government.

Poor-law Medical Appointments in the Highlands.

Mr. CATHCART WASON ask the Lord Advocate whether he would state the number of parishes in the Highlands and Islands that had from time to time, for longer or shorter intervals, been without any medical attendance for the poor owing to the parish council medical officer having been dismissed from or resigned his appointment.—Mr. URE wrote in reply: I am not aware of any instance in which a parish has been without medical attendance to the poor under the circumstances described by the honourable Member. When a vacancy occurs temporary arrangements are made to provide such attendance until the appointment of a medical officer is made.

In reply to a further question, Mr. URE stated that he was aware that circulars had from time to time been issued by a medical association warning members of the medical profession against accepting certain appointments.

WEDNESDAY, MAY 19TH.

Milk Legislation.

Mr. STANIER asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, when the Board intended to issue the Orders mentioned by the President of the Local Government Board as causing the delay in introducing the Milk Bill, and what were the subjects which were in need of these Orders.—Sir EDWARD STRACHEY replied: The Order to which my right honourable friend referred deals with tuberculosis in bovine animals. We hope to issue and circulate it at the same time as the Milk Bill.

BOOKS, ETC., RECEIVED.

AMERICAN ECCLESIASTICAL REVIEW, The Dolphin Press, Philadelphia.

Catholic Churchmen in Science. (Second Series.) Sketches of the Lives of Catholic Ecclesiastics who were among the great Founders in Science. By James J. Walsh, M.D., Ph.D., LL.D. Price $1.00 net.; post paid, $1.08.

ARNOLD, EDWARD, London.

Further Advances in Physiology. Edited by Leonard Hill, M.B., F.R.S. Price 15s net.

The Sanitary Officer's Handbook of Practical Hygiene. By C. F. Wanhill, Major, R.A.M.C., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H., Conjoint Board of England, and W. W. O. Beveridge, D.S.O., Major, R.A.M.C., M.B., C.M. Edin., D.P.H. Cambridge, F.C.S. Price 5s. net.

COHEN, FRIEDRICH, Bonn.

Das Wesen der Krankheit. Von Dr. Hugo Ribbert. Price M.4.

COLLINGRIDGE, W. H. AND L., "City Press" Office, London.

The City of London Directory for 1909. Price 12s. 6d.

CURRIE, JOHN, Edinburgh.

The Pocket Prescriber. By James Burnet, M.A., M.D., M.R.C.P.E. Price 1s. net.

ENGELMANN, WILHELM, Leipzig.

Anleitung zur Präparation und zum Studium der Anatomie des Gehirns. Von Dr. med. Emil Villiger. Price M.1.

EYRE AND SPOTTISWOODE, LIMITED, London.

British National Finance. By J. W. Root. Price 5s. net.

FIFIELD, A. C., London.

The Last of the De Mullins. A Play without a Preface. By St. John Hankin. Price 1s. 6d. net.

FISCHER, GUSTAV, Jena.

Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Vierte umgearbeitete Auflage. Dritte Lieferung. Price M.4.50.

Die Krankheiten des Mundes. Von weil. J. von Mikulicz-Radetzky und W. Kümmel. Zweite Auflage. Neu bearbeitet von W. Kümmel. Price, paper, M.9.; bound, M.10.

Weltsprache und Wissenschaft. Von L. Couturat, O. Jespersen, R. Lorenz, W. Ostwald, und L. Pfaundler. Price not stated.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Die Dementia Præcox und ihre Stellung zum Manisch-Depressiven Irresein. Eine klinische Studie. Von Dr. med. M. Urstein. Price M.15.

Phenol und seine Derivate als Desinfektionsmittel. Vorgelegt von Dr. Kurt Laubenheimer. Price M.3.60.

Zur Kenntnis der spezifischen Eigenschaften der Carcinomzelle. Von Leo Hess und Paul Saxl. Beitrage zur Carcinomforschung. Aus der I. Med. Klinik (Prof. C. v. Noorden) in Wien. Herausgegeben von Priv.-Dozent Dr. H. Salomon. Heft I. Price M.2.

WARMBATH, A., London.

Manual for Chiropody and Management of the Feet. Anatomical and Practical Demonstration. First Edition. Price not stated.

YEARSLEY, W. A. (Mrs.), Avenue Parade, Accrington.

A Practical Self-Cure of Stammering and Stuttering. By Walter A. Yearsley. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ATKINS, SYDNEY ERNEST, L.R.C.S. Irel., L.S.A., has been appointed Medical Officer to the Workhouse and the Children's Home by the St. Thomas' (Exeter) Board of Guardians.

BAZALGETTE, SYDNEY, L.R.C.P. Lond., M.R.C.S., has been appointed First Assistant Medical Officer at the Bristol City and County Asylum, Fishponds.

BLACK, LEWIS POTTER, M.B., B.C. Cantab, L.R.C.P. Lond., M.R.C.S., D.P.H. Lond., has been appointed Medical Officer and Public Vaccinator for the St. Thomas District by the St. Thomas' (Exeter) Board of Guardians.

BROWNE, FRANCIS JAMES, M.B., Ch.B. Aberd., has been appointed Medical Officer and Public Vaccinator for the Abertillery District of the Bedwellty (Mon.) Union.

BYRES, G., M.B., M.S. Aberd., has been appointed Medical Officer to the Aberdeen City Parish Council.

FAIRBANK, H. A. T., M.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Miller General Hospital for South-East London.

GILBERTSON, A. J., M.B., B.S. Durh., has been appointed Honorary Surgeon to the Monkwearmouth and Southwick Hospital, Sunderland.

HARRIS, JOHN HENRY, M.D. Durh., M.R.C.S., L.S.A., D.P.H. Cantab., has been reappointed Port Medical Officer for Dartmouth (Devon).

JONES, JOHN ELLINGTON, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Honorary Skiagraphist to the Orthopædic Hospital for Crippled Children, Redland, Bristol.

MINCHIN, P. DUNDAS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator for the Etwall District of the Burton Union.

MORTON, WILLIAM BRITAIN, M.D. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent at the Wonford House Hospital for the Insane, Exeter.

NEWALL, W. A., M.D., Ch.B., D.P.H. Vict., has been appointed Honorary Assistant Physician to the Chester General Infirmary.

PHILLIPS, JOHN ROBERT PARRY, L.R.C.P. Lond., M.R.C.S., has been appointed Junior Medical Officer at the Bristol City and County Asylum, Fishponds.

REVIE, A., M.B., M.S. Glasg., has been appointed Visiting Surgeon to the Kilmarnock Infectious Diseases Hospital.

STARR, VERNON H., M.B., B.S. Lond., has been appointed House Surgeon at the Royal Devon and Exeter Hospital, Exeter.

WILSON, J. D. O., M.D., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Alloa District of the county of Clackmannan.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERTILLERY URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £350 per annum.

ALBERT DOCK HOSPITAL, Connaught-road, E.—Senior House Surgeon and Registrar. Also House Surgeon. Salary of former £100 per annum, and of latter £50 per annum, with board, residence, and washing.

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, &c.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BETHNAL GREEN INFIRMARY AND WORKHOUSE.—Assistant Medical Officer. Salary at rate of £100 per annum, with apartments, board, and washing.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Also Female Resident Assistant Medical Officer. Salaries £120 and £100 per annum respectively, with board, washing, and apartments.

BLACKBURN, COUNTY BOROUGH OF.—Assistant Medical Officer of Health, unmarried. Salary £100 per annum, with board and lodging.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Assistant Resident Medical Officer for holiday duty. Salary 25 guineas, with board and residence. Also Second House Surgeon, unmarried. Salary £60 per annum, with apartments, board, and laundry.

BUXTON, WYE HOUSE.—Assistant Medical Officer. Salary £120 per annum, indoor, all found.

CAPE COLONY, FRERE HOSPITAL, East London.—Resident Medical Officer. Salary £300 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—Assistant Surgeon.

DARENTH ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with rations, lodging, attendance, and washing.

DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

DUMFRIES, CRICHTON ROYAL INSTITUTION.—Three Crichton Research Fellowships. Value £250 per annum each, with board, quarters, attendance, and laundry.

DURHAM COUNTY COUNCIL.—Three School Medical Inspectors (two females and one male). Salary in each case £300 per annum.

EAST AFRICA PROTECTORATE.—Two Medical Officers. Salary £400 per annum, with quarters.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Pathologist and Registrar. Salary £100 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.
GLASGOW, VICTORIA INFIRMARY.—Visiting Physician.
GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.
IPSWICH, EAST SUFFOLK HOSPITAL.—Senior House Surgeon. Salary £80 per annum.
KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Senior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and attendance.
KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.
LIVERPOOL, CITY OF, EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.
LONDON SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Demonstrator in Anatomy and Curator of the School Museum (females).
MEDICAL MISSION HOSPITAL, Balaam-street, Plaistow, E.—Assistant Doctor (female) for six months. Board, residence, and laundry provided.
MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.
NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.
OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.
PADDINGTON INFIRMARY AND WORKHOUSE.—Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.
PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Anæsthetist.
REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, with board, lodging, washing, &c.
ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Physician. Salary £110 per annum, with board and residence.
ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Honorary Anæsthetist.
SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Salary £15 per annum.
SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.
SHEFFIELD EDUCATION COMMITTEE.—Assistant Medical Officer for Elementary Schools. Salary £250 per annum.
SHEFFIELD ROYAL HOSPITAL.—Honorary Assistant Surgeon.
SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.
SOUTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £250 per annum.
SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.
SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.
SUNDERLAND INFIRMARY.—House Surgeon. Salary £80 per annum, with board, residence, and washing.
TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.
THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry.
WALSALL AND DISTRICT HOSPITAL.—House Surgeon, also Junior House Surgeon. Salary of former £100 and of latter £80 per annum, with board, residence, &c.
WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.
WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.
WESTERN AUSTRALIA, STATE OF, MEDICAL AND HEALTH DEPARTMENT.—Medical Officer to the Central Board of Health. Salary £400 per annum.
WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and laundry. Also Two House Surgeons. Salaries £80 per annum, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Farsley, in the county of York; and at Leith, in the county of Edinburgh.

Births, Marriages, and Deaths.

BIRTHS.

CUNNING.—On May 18th, at 3, Upper Wimpole-street, the wife of Joseph Cunning, of a son
MARETT.—On May 13th, at Avranche, St. Lawrence, Jersey, the wife of E. P. Marett, L.R.C.P. Edin., of a son.
PHILLIPS.—On Sunday, May 16th, at 12, Iverna-gardens, Kensington, the wife of Llewellyn Phillips, M.D. Cantab., F.R.C.S., F.R.C.P. (of Cairo, Egypt), of a daughter.

DEATHS.

ELLABY.—On May 13th, at Harley-street, Charlotte Louisa Ellaby, M.D., aged 55 years.
WILSON.—On May 15th, at Dean's-grove, Guildford, James Wilson, late Lieutenant-Colonel R.A.M.C., in his 74th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PRACTICE OF DENTISTRY IN THE PAST.

IN the current number of the *Proceedings of the Royal Society of Medicine*, which we reviewed in our last issue, Mr. Ashley Densham, the learned librarian of the Odontological Section, contributes an interesting historical review of the progress of dental science and literature, which he concludes by quoting a list of fees from the book of Paul Jullion, surgeon-dentist, 1781. The list forms so complete and surprising a conspectus of the field of dental surgery in the days of John Hunter that we reproduce it in full.

	£	s.	d.
Scaling the Teeth	0	10	6
Bleeding and scarifying the gums	0	5	0
Filling or stopping up the cavity of a decayed tooth with lead	0	5	0
Ditto with gold	0	7	6
Filing and polishing a tooth	0	2	6
Extracting a tooth or stump	0	2	6
Transplanting a living tooth	5	5	0
Ditto a dead tooth	2	2	0
Engrafting the crown or body of a sound human tooth on the root of a decayed one	2	2	0
Constructing and fitting an artificial tooth with silken ligature	0	10	6
Ditto with gold wire fastenings	0	15	6
Ditto with gold spring	1	5	6
Constructing and fitting an upper or under row of artificial teeth without fastenings	10	10	0
Ditto complete set of artificial teeth with gold springs	25	0	0
Fitting and fixing a human tooth on the same construction as an artificial one with silken ligatures.	2	2	0
Ditto with gold wire fastenings	2	7	0
Ditto with gold springs	3	3	0
Fitting an upper or an under row of human teeth on the same principle without fastenings	31	10	0
A complete set of human teeth with gold springs	73	10	0
Constructing and fitting an artificial palate	21	0	0
For the care and treatment required for preserving the health and vigour of the teeth, gums, and contiguous parts of a person's mouth at per year.	4	4	0

This comprehensive tariff gives rise, in our mind, to several reflections. Was it meant for the instruction of the public or was it intended only as a helpful guide to inexperienced practitioners diffident as to the value of their services? If the former, who would not have preferred to part with a quarterly guinea to obtain the prophylactic benefits of the last item on the table rather than risk a bill for £73 as a sequel to the unthinkable nastiness of wearing another person's discarded teeth? Then again, where did the "living teeth" for transplanting come from? Did any unscrupulous practitioner, when clearing a mouth in preparation for an artificial denture, ever venture to abstract a healthy tooth or so in addition to the carious offenders and fit his booty "still living" into an edentulous cavity in his next patient's jaw? Or were persons to be obtained willing to part with their healthy teeth to make good another's losses for a consideration easily paid out of the extra 3 guineas accruing to the dentist as the intermediary in the transaction? It is only fair on the period under review to add that the best professional opinion of the day was opposed to this process of grafting teeth, for, according to Mr. Densham, Thomas Berdmore, Dentist-in-Ordinary to King George III., who wrote the first English scientific treatise on dentistry, condemned the practice, argued that "if the replantation of teeth is so rarely successful, how much less can be the implantation of a tooth that can only roughly fit the socket and must ..... inevitably cause pain and inflammation." But however the "living" teeth came into the dentist's hands it is easy enough to imagine the source of the "dead" teeth in a century notorious for its judicial executions. Doubtless, too, the battlefields of Europe paid full toll to the traffic in human teeth, though Mr. Densham is inclined to believe that the "resurrection men" were the chief agents in their collection. It is hardly surprising to read later in his paper that "in 1774 a chemist named Duchâteau, living near Paris, found the colour and odour of his ivory denture so unpleasant that he conceived the idea of having it modelled in porcelain," which gave rise to experiments in which he was associated with Dubois de Chémant, a Parisian dentist who subsequently took all the profit from them in London where he made and sold a "mineral paste" which was the forerunner of the materials used in the manufacture of the perfect artificial teeth of the present day.

In the tariff which we have quoted it is noteworthy that no mention is made of amalgam fillings, which were a contribution of the nineteenth century to dentistry; Mr. Densham, however, attributes the first use of gold leaf for filling dental cavities to Giovanni d'Arcoli, professor at Bologna and Padua, who flourished in the fifteenth century. If we are to accept Mr. H. E. P. Platt's interpretation of a passage

from Cicero's second book, "De legibus," the use of gold in prosthetic dentistry dates back as far as the XII. tables of the Roman law which were drawn up by the decimvirs in 450 B.C. Mr. Platt says in his fascinating little book "A Last Ramble in the Classics": "The Twelve Tables contained provisions against extravagance at funerals and among them a direction that gold should not be thrown on the funeral pile. But an exception was expressely made of gold stopping in a tooth. This might lawfully be buried or burned with the corpse. 'In lege cum esset 'neve aurum addito' quam humane excipit altera lex "cui auro dentes vincti escunt, ast im cum illo sepeliet uretve, se fraude esto.'" We should hesitate to differ from Mr. Platt on a question of pure scholarship, but on historical groun is we are not convinced that "vincti" can be rendered legitimately as "stopped." We have heard the suggestion that the word referred to the ornamental binding of the teeth with gold foil. It would surely be as correct to consider it a reference to gold "bar and bridge" work as to the process of filling carious cavities with gold. But however this may be, Mr. Densham has shown in his studious paper that many dental processes have a longer pedigree than some of their modern practitioners would be inclined to put to their credit.

THE SANITARY SANCTION FOR CIRCUMCISION.

To the Editor of THE LANCET.

SIR,—In your issue for May 8th the writer of an article on "Circumcision" maintains that this measure was adopted by the ancients rather for sanitary than for religious reasons. In this connexion the following quotation may be of interest. It is from Philo Judaeus, the famous Alexandrian contemporary of Christ: Περι Περιτομῆς (De Circumcisione) [Editio Mangeyana II., 211]: "There are for circumcision four chief reasons, the first being freedom from a grievous disease and from suffering hardly to becured, which they call carbuncle [*sic*] (obtaining the appellation, as I think, from its burning on in a smouldering fashion) and which is more prone to happen to those who have prepuces.* * *" I am, Sir, yours faithfully,

The London Hospital, E., May 12th, 1909. W. H. PALMER.

A HEARTLESS EXPERIMENT!

THE following spirited protest may interest those of our readers who were present at the recent conversazione of the Royal Society, of which we gave an account in our last number. Others may have seen a report of the experiment to which our anonymous correspondent refers in some of the daily newspapers, one of which at least published an illustration of the animal in question, undergoing its ordeal by electricity. To those who are not aware of the recent dedication to science of the bulldog "Jim" by his distinguished master, we suggest that some light might be thrown on the matter by a study of Dr. Augustus Waller's paper on Einthoven's studies made with his string electrometer which will be found on another page. We would also commend the letter that follows as an elegant model to the antivivisection propagandists throughout the country:—

To the Editor of THE LANCET.

SIR,—I think it only right to bring before your notice an experiment of a vivisectional nature, although it did not involve actual cutting, which was performed at the Royal Society *soirée* last night by a well-known physiologist before an audience which included, shame be it said, at least two bishops. The subject was a bulldog. A strong leather strap plentifully provided with sharp nails was secured around his neck and one fore and one hind foot were immersed in vessels containing water charged with that intensely corrosive metal sodium and that very poisonous gas chlorine. An electric current caused by the anxious throbbings of its heart passed through the whole body of the animal and out through the vessels, and by some devilish device these throbbings were exposed to view upon an illuminated screen. No anæsthetic of any kind was employed and this went on for hours.

I am, Sir, yours faithfully,

INDIGNANT.

CUT THROAT IN RELATION TO SPEECH: A MEDICO-LEGAL POINT.

To the Editor of THE LANCET.

SIR,—I shall be glad if you would kindly publish the following in your columns as I am desirous of ascertaining what would be the general opinion on the point. The subject is of great importance from the medico-legal point of view and I can find no recorded opinion directly bearing on it.

In July last a boy was injured in a village in this district shortly before daybreak. His throat was cut across and the larynx divided just *above* the vocal cords. The wound severed the facial and lingual arteries and also divided the anterior wall of the œsophagus. He lingered till sunset. Shortly after the infliction of the injury he is alleged to have spoken and made a statement involving certain persons. The nearest medical officer sent for (a medical subordinate serving under me) did not arrive till after the boy was dead. He saw the injuries and held the post-mortem examination. He gave out as his opinion that the gaping wound of the throat rendered speech impossible from the moment of its infliction. Before the case went into court he sought my advice and I fully concurred in his opinion. Medical opinion to the contrary was, however, obtained from outside the district by the defence. It was stated by this authority that the wound "being situated *above* the vocal cords, it would not have prevented the boy from speaking fairly loudly and fairly distinctly, though the voice would naturally grow fainter as the boy gradually succumbed owing to loss of blood."

Now it will be readily acknowledged that *sound* can be produced when the cut is *above* the vocal cords, but can it be held that *speech* would also be possible under the circumstances? Sound must surely be modulated in the mouth for the purposes of speech. Will your readers kindly tell me if they are of opinion that any sound produced in a case like this will reach the mouth and be converted into speech in the presence of a large gaping wound, the presence of blood, possible falling in of the soft parts above, shock of the injury, depressed mental state of the injured, and other attendant circumstances?

I am, Sir, yours faithfully,

R. K. MITTER, M.B., Major I.M.S.,
District Medical and Sanitary Officer.

Salem, India, April 27th, 1909.

*** Our correspondent is correct in thinking that in such a case as he describes the voice of the victim would be much impaired, but we cannot agree with him that it would be impossible for a bystander to understand anything the patient said. Even though the injury to the larynx were very complete and the wound gaped greatly, yet it is almost certain that a portion of the expired air would pass into the mouth and would give rise to sufficient voice to be heard and understood. Such an extensive cut-throat wound is unusual as a homicidal injury; in this country at least it is nearly always suicidal, and all who have had experience of such cases will agree that nearly always, even where the injury has been very extensive, it is quite possible to understand what the patient is saying.—ED. L.

A MEDAL FOR HEROIC CONDUCT.

A CORRESPONDENT has forwarded to us for inspection a silver medal awarded last year to Mr. J. H. Robinson for courageous conduct by the Hamburgischer Verein "Seefahrt," together with the covering letter received by Mr. Robinson from Herr Ballin, the well-known director of the North German Lloyd Line. We print an illustration

of the striking design on the obverse of the medal. The reverse bears a conventional picture representing a galley with its oars, and is engraved with the words, "Dr. John Hargreaves Robinson, 17 Mai, 1908," and round the circumference are the words, Hamburgischer Verein "Seefahrt." The following is a translation of Herr Ballin's letter:—

[TRANSLATION.]

Hamburg, September, 1908.

Dr. John Hargreaves Robinson, Southport.

The Hamburgischer Verein "Seefahrt" has decided, in recognition of your courageous conduct at the rescue of the crew of the steamer *Nord See*, on the 17th May, 1908, to grant you the silver medal established as a reward for exceptional performances at sea. We herewith bring this decision to your knowledge and at the same time beg to inclose to you the medal. BALLIN, Director.

MEDICAL MEN AND THE CLERGY IN RELATION TO "CHRISTIAN SCIENCE."

AT the Bath and Wells Diocesan Conference on May 14th Mr. Stephen Paget, speaking on "Christian Science," said that it was a false philosophy, a false religion, and a false system of healing. The clergy were the people who could fight against this fantastical jargon. Medical men could not. "Christian Science" should be fought in the open. The frightful growth of this new heresy should be the ground for one of the 15 decisive battles of the world of religion. There was more want of coöperation between the clergy and the doctors in hospitals than in medical practice. In practice it all depended on what the two men were in daily life. If the clergyman and the doctor were good friends, understanding each other, honouring each other, not meddling, not libelling, not gossiping, but backing each other up, there would be no

want of coöperation at the bedside. But if the two men did not like each other, never lent a book to each other, had to be far apart at the feast, and never met for a pipe and a talk, then, of course, the unhappy, innocent patient had to suffer from the stiffness of etiquette manifesting itself over his prostrate form. It all began when the man was quite well, and it was then that events happened which settled whether the clergyman and the doctor would, or would not, coöperate over his sick bed. As to the clergyman, not being sent for until the last, that was a matter for the family, not for the doctor. The doctor and the clergyman must coöperate against "Christian Science," not when people were ill, but when they were well. Take a village where the Lady Bountiful was a "Christian Scientist," the two men must coöperate to make her faith and works a positive burden to her. They must laugh her pretentions to scorn, and explain to people that she was dangerous and show where she had gone wrong. The worst of quarrels was better than letting "Christian Science" spread through a village. "Christian Science" had nothing to do with being ill. It got at people when they were well; it loved prominence, razzle-dazzle, and advertisement. After severely criticising the claims of certain faith-healers, and stating that doctors could not coöperate with such people, Mr. Paget asked what the clergy were going to do when a doctor was hostile or indifferent and left a case. If the patient died the clergyman would be landed with all the difficulties of the Peculiar People. How long would the clergyman continue the treatment? To what cases would he apply it? A mother might bring a child with a cleft palate or a hare lip, what would the clergyman say? There were, Mr. Paget argued, a whole range of diseases in which it would be as futile to expect good results from "Christian Science" as in those of physical malformation he had referred to. He did not deny that faith, hope, and love might somehow help a man to hang on in a case of typhoid fever or diphtheria until he had brewed in his own system sufficient antitoxin, or had had it injected into him, but he did not believe that faith, hope, and love made any difference to the germ of which the disease was the work, or to the brewing of the toxins or antitoxins once the germs got in. It was a chemical process and could be reproduced in a rabbit or a test-tube.

YELLOW FEVER IN BRITISH HONDURAS IN 1905.

To the Editor of THE LANCET.

SIR,—With reference to your note on p. 1433 in THE LANCET of May 15th we have to say that we published Sir Rubert Boyce's report in 1906. It was circulated in this country and copies were sent to the press. The copy we sent you was reviewed in your journal dated May 12th, 1906. The report is published at 3s. 6d. net, and copies can be obtained through a bookseller or direct from us.

We are, Sir, yours faithfully,

J. AND A. CHURCHILL.

Great Marlborough-street, London, W., May 14th, 1909.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—H. W. Trowby, D. P. Gabell, J. Howard Mummery): at 8 P.M.

Paper:

Mr. Warwick James: A Preliminary Note on the Eruption of the Teeth.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 5.30 P.M.

Papers:

Professor R. T. Hewlett: The Treatment of Typhoid Fever with an Anti-endotoxic Serum.

Dr. E. W. Goodall and Dr. Bruce: The Results of Treatment of Cases of Typhoid Fever with the same Anti-endotoxic Serum.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles): at 4.30 P.M.

Papers:

Dr. Parkes Weber: Congenital Obliteration of the Bile-ducts with Cirrhosis.

Mr. A. R. Thompson: Congenital Dislocation of Hip.

Cases:

Dr. Eric Pritchard: (1) Unilateral Hypertrophy of the Hand; (2) Symmetrical Helical Fistulæ with Branchial Fistula in an Infant.

Mr. Sydney Stephenson: A Case of Oxycephaly.

Dr. George Carpenter: (1) Case of Congenital Morbus Cordis; (2) Specimen of Congenital Hypertrophic Stenosis of Pylorus.

And other Cases.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. G. Adamson: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. J. Smith: The Treatment of Typhoid Fever.

TUESDAY.—4 P.M., Dr. C. T. Williams: Clinique (Medical). 5.15 P.M., Lecture:—Dr. T. N. Kelynack: Open-air Schools for Tuberculous Children (with lantern slides).

WEDNESDAY.—4 P.M., Mr. R. Johnson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. R. W. Allen: The Pathology and Treatment of a Common Cold.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Cliniques (Surgical). 5.15 P.M., Lecture:—Sir John Broadbent, Bart.: Relation of Arterio-Sclerosis to Aneurysm and Renal Disease.

FRIDAY.—4 P.M., Mr. E. Clarke: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Lloyd: Anæsthetics.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Clinical (with cases).

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Dunn: Cases of Eye Diseases.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Diseases.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. B. Giles): 4.30 P.M., Lecture:—Dr. B. Price: The Various Forms of Congenital Heart Disease and their Diagnosis.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. B. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. H. W. Carson: Catarrhal Deafness.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. E. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. P. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Glaucoma, its Symptoms, Physical Signs, and Pathology.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Hemiplegia. 3.15 P.M., Special Lecture:—Mr. McGavin: Psoas Abscess, its Origin and Surgical Treatment.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.

THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.

FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. Kingsford: Anæsthetics.
FRIDAY.—3.45 P.M., Lecture:—Mr. W. Wallis: Mouth and Teeth.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. F. E. Batten: Cerebellar Disease.
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. W. A. Turner: Epilepsy.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (29th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 20th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 14	30·16	S.	0·09	77	51	39	40	42	Overcast
,, 15	30·07	N.E.	...	107	51	40	42	45	Cloudy
,, 16	29·98	E.	...	113	57	39	43	48	Cloudy
,, 17	29·76	N.	0·05	97	55	45	46	48	Overcast
,, 18	30·12	W.	...	119	62	43	50	54	Cloudy
,, 19	30·29	S.	0·03	117	68	48	48	54	Fine
,, 20	30·27	S.E.	...	123	71	48	53	59	Fine

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